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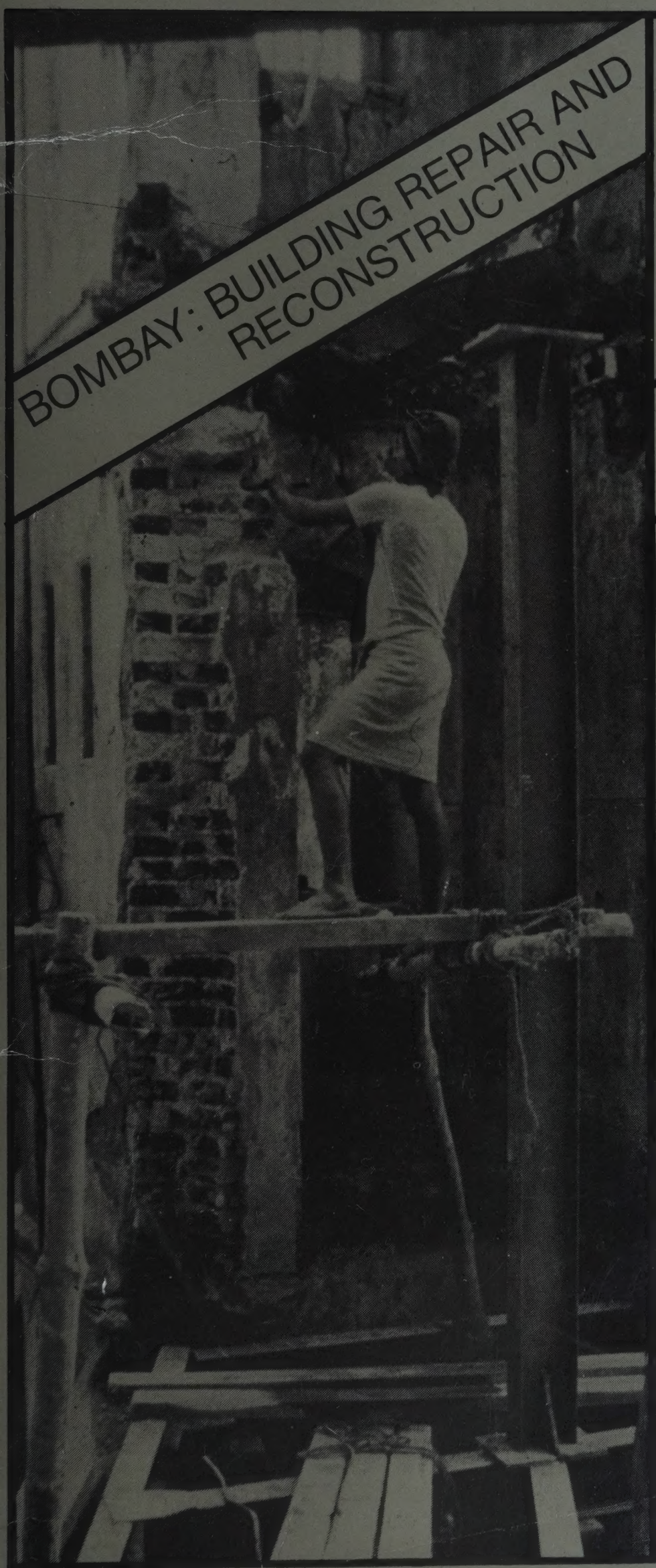
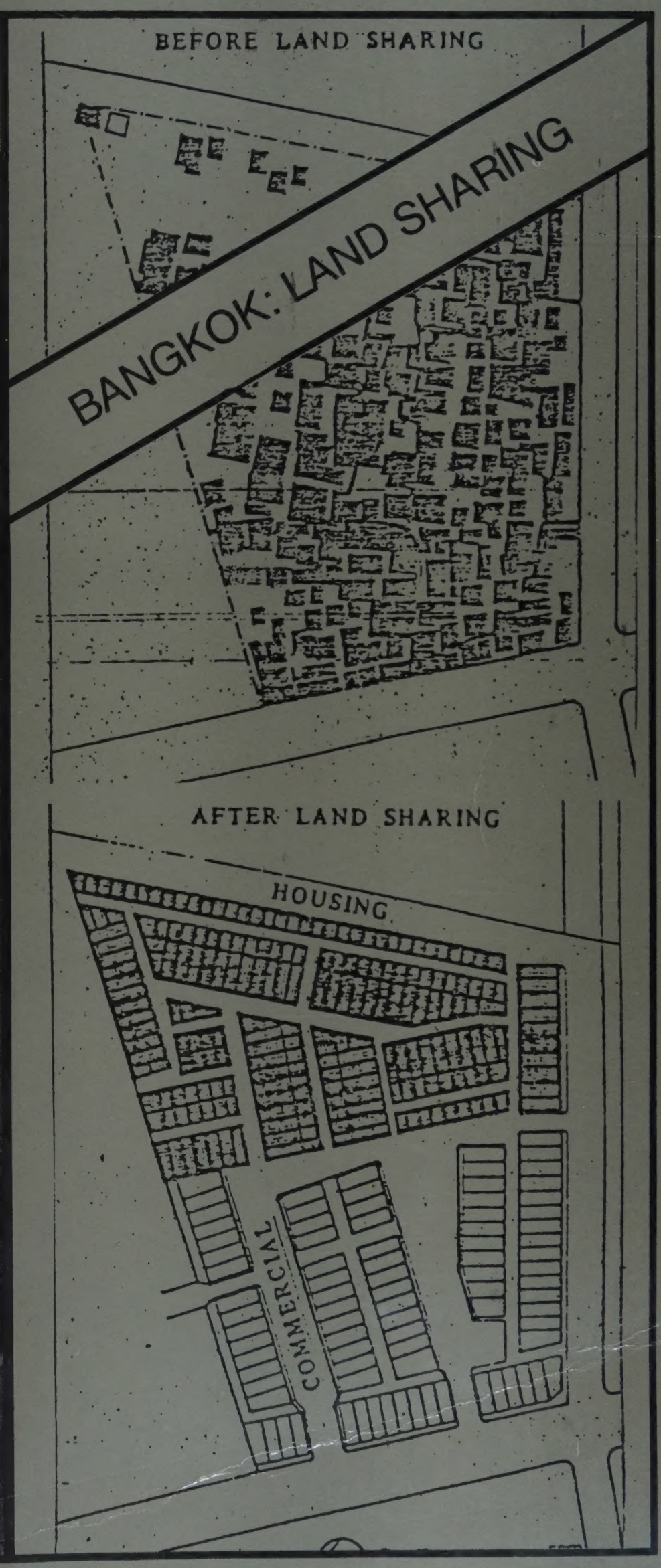
REHABILITATION OF INNER CITY AREAS: FEASIBLE STRATEGIES



BOMBAY: BUILDING REPAIR AND RECONSTRUCTION



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UNITED NATIONS CENTRE FOR HUMAN SETTLEMENTS (HABITAT)

REHABILITATION OF INNER CITY AREAS:
FEASIBLE STRATEGIES

BOMBAY: BUILDING REPAIR AND RECONSTRUCTION

BANGKOK: LAND SHARING

United Nations Centre for Human Settlements (Habitat)

Nairobi 1986

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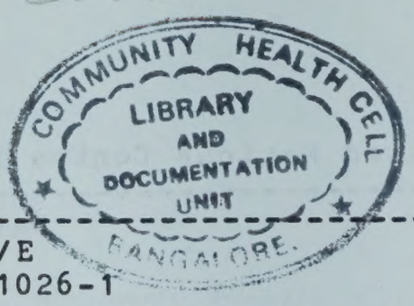


HS/79/85/E
ISBN 92-1-131026-1

FOREWORD

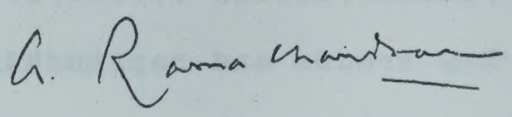
The majority of the urban poor in developing countries has access to shelter through some form of rental agreement, often of an informal nature. A vast percentage of this rental housing stock is to be found in old and established neighbourhoods, close to the city core or what is broadly called the inner city.

These sections of the city have been affected by drastic changes in recent years, mostly on count of high redevelopment pressure. In other cases, and often in situations where there existed an established right to a protected tenancy, an investment stagnation, coupled with ever increasing residential densities, has led to conditions of structural and infrastructural obsolescence. The complex set of legal and tenurial factors covering the inner city housing stock has in most situations prevented governments from acting decisively to guide redevelopment in the city core in support of stabilizing the residential situation of its low-income inhabitants.

Few positive actions are there to prove to the international community that solutions to the problems of the inner city exist in the form of feasible strategies. UNCHS (Habitat), after documenting in previous years the trends affecting the inner city in the developing world, presents in this publication two particularly significant rehabilitation strategies from the Asian region. The positive indications emerging from each of them should constitute an incentive to governments and local administrations around the world to act courageously in tackling the problems of the inner city.

I am confident that this publication will provide useful insights to policy makers, planners and professionals who are active in the field of rehabilitation and shelter improvement.

I gratefully acknowledge the following contributions to Habitat's work in the preparation of this publication: Mr. S.K. Das from the Institute of Housing Studies, Rotterdam, the Netherlands, for the research on Repair and Reconstruction in Bombay, and Dr. S. Angel and the Centre for Housing and Human Settlements Studies, Bangkok for the research on Land-Sharing in Bangkok.



Dr. Arcot Ramachandran
Under-Secretary-General
Executive Director

CONTENTS

		Page
INTRODUCTION		1
I.	The Building Repair and Reconstruction Programme in Bombay	3
	A. The urban development context	3
	B. Early dilapidation	4
	C. The impact of rent control acts	5
	D. Housing stock typology	7
	E. The dilapidation of the housing stock	10
	F. The Building Repair and Reconstruction Programme	12
	1. The institutional set-up	12
	2. Scope and target of public sector intervention	12
	3. Financial framework	13
	4. Tenurial provisions	14
	5. Problems and limitation of intervention by the Repair and Reconstruction Programme	16
	G. The Repair Programme	17
	1. Modalities	17
	2. Problems and limitations	19
	H. The Reconstruction Programme	21
	1. Modalities	21
	2. Problems and limitations	23
	I. The financial implications: repair vs. reconstruction	24
	J. New trends and replicability	27
	Abbreviations	31
	Notes and references	32

Page

II. The land-sharing projects in Bangkok 35

A. Bangkok's inner city and its housing stock 35

B. The changing structure of the inner city 36

C. The origins of land sharing 38

D. The concept of land sharing 39

E. Five land-sharing projects in Bangkok 44

1. Rama IV 44
2. Sam Yod 44
3. Klong Toey 49
4. Wat Lad Bua Kaw 51
5. Manangkasila 57

F. Performance and feasibility of land-sharing 61

1. Land criteria 64
2. Social criteria 65
3. Physical and technical criteria 65
4. Financial criteria 66
5. Feasibility ratings 67

G. The Performance of five land-sharing projects ... 70

1. Land 70
2. Density and housing quality 72
3. Ability to pay for housing 73

H. Potential for replicability 74

Notes and References 78

Page

Tables

1. Number of house collapses in Bombay City (buildings taxed under the 1969 legislation) 11

2. Statement showing investment on and return from repairs and reconstruction schemes 26

3. Wat Lad Bua Kaw, record of tenure 51

4. Wat Lad Bua Kaw, summary of costs and bearers 55

5. Manangkasila, Capital Investment 60

6. Potential for land-sharing 63

7. Feasibility criteria for assessing the potential for land sharing in five Bangkok slums 68

8. Quantitative indicators for assessing the feasibility of land-sharing in five Bangkok slums 69

9. Quantitative indicators measuring the performance of land-sharing projects in five Bangkok slums 71

Page

Figures

1. The location of slums in Bangkok in 1985, including the five land-sharing sites 43

2. The Rama IV land-sharing project 45

3. Rama IV land-sharing project house types 46

4. The Sam Yod land-sharing project 47

5. Sam Yod land-sharing project house types 48

6. Klongtoey land-sharing project 50

7. Wat Lad Bua Kaw 52

8. The Wat Lad Bua Kaw land-sharing project 53

9. The Manangkasila land-sharing project 58

10. Manangkasila land-sharing project house types 59

INTRODUCTION

A 1984 UNCHS (Habitat) publication, Upgrading of Inner-City Slums, analysed the current low-income housing situation in some cities of developing countries. It found that a combination of market pressures and public-sector interventions had gravely affected the residential stability of traditional low-income neighbourhoods, the residents of which depend upon their locations for their economic survival. Very little was found in the way of supportive public-sector policies which recognized the claim of the poor to accommodation in the inner city as legitimate.

The poor have been severely affected by market pressures on the inner city, by commercial redevelopment and by gentrification of low-income neighbourhoods. Increasing commercialization of central districts seems to be the most pervasive phenomenon threatening traditional low-income residents, particularly in Asian cities. Changing patterns of production, shortage of land for urban development and increasing demand for office space are all factors contributing to overall increases in land values and, therefore, to increased pressure on the traditional low-income occupiers of inner city housing. Displacement of the poor to peripheral rehousing areas is the inevitable consequence of this trend, and in all the cities analysed a net decrease of residential land use in central neighbourhoods was identified as a common trend over the past 30 years.

Administrations have reacted in different ways, some times following the economic logic of market forces which calls for eviction of low-income residents and other times trying to arrest the destruction of housing stock which has dramatically contributed to overall housing shortages. However, even in the latter cases, few administrations were able to bring about overall tenurial stabilization of the city poor, and most programmes were limited to ad hoc interventions to upgrade selected neighbourhoods. Few of those attempts were successful; in most cases, limited-scale redevelopment simply enhanced the attractiveness of centrally located low-income settlements for high-income groups.

Resettlement to the fringes of towns, at least in the Asian context, is clearly no solution, even assuming that administrations had the capacity to produce as much new housing stock as would be needed. The pattern of informal economy still prevailing in the Asian city, where low-income residents depend mostly on casual employment opportunities available in the city core, makes the peripheral rehousing option unfavourable to the poor. Squatting in central neighbourhoods by residents previously resettled to the fringes testifies to that.

The purpose of this report is to analyse two of the very few instances in which strategies aimed at rehabilitating inner-city areas have resulted in providing secure tenure and improved shelter to the original residents. Each case study discusses experiences which are, however, different in scale and modalities. The first monograph, on the Bombay Programme of Building Repair and Reconstruction, analyses a long-term, large-scale, official public-sector intervention, unique of its kind, where state and city authorities became managers and implementers of a programme of city-wide rehabilitation of existing housing stock. The second monograph, on "land sharing" in Bangkok, explains how an inner-city strategy was produced rather painstakingly as a result of protracted conflicts over land rights. Land sharing, still far from being accepted as a large-scale option, remains a strategy with largely untapped potential. Both experiences provide evidence that rehabilitation of inner-city areas can be undertaken for the benefit of low-income residents and that peri-urban rehousing is not the only solution for the inner-city poor.

I. THE BUILDING REPAIR AND RECONSTRUCTION PROGRAMME IN BOMBAY

A. The urban development context

The strategy adopted in Bombay for the rehabilitation of inner-city housing stock constitutes a unique example of an administration tackling a very complex housing situation through direct intervention. This complexity lies, to start with, in the historical pattern of development which, as will be seen later, produced a dense and cheap housing stock to accommodate labourers around the areas of production. Subsequent waves of urbanization overloaded the carrying capacity of the old stock and generated sprawling unauthorized settlements, but low-income families residing in the city began to enjoy a status of protected tenancy in the period after the Second World War II, thanks to the enacting of rent control legislation. The main result of such a situation could only be stagnation in terms of investment in low-income housing, progressive dilapidation of the existing stock, and increasing inadequacy of sanitary and infrastructural conditions for the majority of poor urban dwellers. The final stage in the process of deterioration was the collapse of several buildings with severe loss of human lives, which became over the years a widespread phenomenon and which ultimately led to public sector intervention.

The area currently known as Greater Bombay, delineated as such in 1951, consists of the island-city of Bombay and the suburban areas, and has a land area of 438 sq km[1/] with an estimated population of about 10 million. Starting from a population of 900,000 in 1901, it grew to 4,150,000 in 1961, to 5,970,000 according to a 1971 census, and to 8.2 million by 1981. The period 1971-1981 registered a growth rate of 37.8 per cent, which puts Bombay among the fastest-growing urban centres in the developing countries.[2/]

The island city of Bombay covers a land area of 68 sq kms.[3/] Most of this area was developed during the colonial period and before the independence of India. Seven small islands were linked by causeways, and reclamation of marshland in the late eighteenth and early nineteenth centuries resulted in the formation of the consolidated landmass that makes up the city.

By the end of the eighteenth century, cotton-spinning industries had been established in Bombay in response to market demands in China, and the port had already been established. In 1900, there were 136 such units, and Bombay had come to be known as the "Manchester of the East", employing, in this industry alone, around 100,000 workers, mostly migrants. During the 1930s, oilmills, mechanical industries, small engineering units, business houses and financial institutions appeared in large

numbers. The colonial pattern of development, characterized by unplanned concentration of activities on a limited land area, generated high densities of business and commercial activities as well as of housing. In the post-Independence era, little was done to arrest such concentration: instead, the massive infrastructure that the city provided was a strong enough force to attract new capital, industry, business and migrants, thus reinforcing the colonial pattern of urbanization. Today the city generates one tenth of the nation's industrial jobs and 18 per cent of those in the manufacturing sector and it handles one quarter of the country's foreign trade.[4/]

The supply of housing in Bombay has fallen far short of demand. Compared with an annual shelter need of about 60,000 units, the supply of housing in the formal sector has only been around 20,000 units.[5/] An obvious outcome of this situation is the proliferation of squatter settlements and overcrowding of existing old housing stock. In 1976, a population of about 2.8 million (40 per cent of the total population) was living in slums or squatter settlements,[6/] and by 1983, this population had increased to over 3.1 million.

In the island-city of Bombay, there are about 400,000 households residing in around 20,000 buildings which are in an advanced state of dilapidation and which require immediate repair or reconstruction. Besides these 20,000 dilapidated buildings, there are an additional 16,000 buildings which are covered by the Rent Act and which could soon be added to the list of buildings requiring repair.

B. Early dilapidation

Dilapidation of old buildings in Bombay is a direct consequence of the housing shortage, a chronic phenomenon which dates back to the turn of the century when rapid development of the spinning and textile industries and expansion of the port, in response to growing trade, took place. The new migrants, who very often moved to the city alone, were to work as industrial labourers or "coolies" (porters); housing them close to the port was a necessity. Naturally, their residential aspirations were low, as was their capacity to pay for housing. In the absence of a planned housing strategy, their residential needs were largely satisfied by the private sector, through landlord constructed buildings with very small (single room) tenements and common utilities. The local word for this housing type is chawl. Each rental unit was tiny, but the aggregate of rents from several tenements meant a reasonable profit for the landlords who had put up these buildings.

After the turn of the century, even the public sector, mostly the Port Authorities which owned vast tracts of land, began constructing similar buildings and renting them out under similar conditions to workers employed by them. Per capita space was low, and densities high from the start, but shortages in supply of this type of housing still meant overcrowding of the existing tenements. Another factor, not taken into consideration by the builders of such housing or by public authorities, was that the migrants brought their families to join them in the cities as they consolidated their economic situation. Over the years, the densities of occupation of dwellings rose to extreme levels. A peculiar pattern of usage also became common as a result of the shortage of accommodation: frequently industrial workers were forced to share chawls at an extremely high rate of occupancy (at times as many as 40 per unit), with the result that a system of shifts had to be worked out to allow everybody to get at least some hours of sleep. The structure, its services designed for a few but used by many, began to deteriorate much faster than would have been the case in normal circumstances, and dilapidation became a pervasive phenomenon in the city.

C. **The impact of rent control acts**

A popular misconception prevalent in Bombay is that the imposition of rent control in the period after the Second World War is the prime cause of dilapidation and disrepair of tenanted buildings, whereas, in reality, dilapidation is a phenomenon that predates the imposition of rent control.[7] A 1957 Bombay Municipal Corporation (BMC) survey showed that, of all 36,000 buildings in the innercity area, nearly 49 per cent had been built before 1905 and were generally in a ruinous condition: 24 per cent were estimated to have a residual life of five years or less.[8]

In 1939, a rent control measure was enacted by the colonial Government. Landlords had started increasing rents excessively and indiscriminately, as a result of which tenants, acting as an organized group, were refusing to pay the increases. Fearing adverse consequences for industry and business, the Government intervened in 1939 to impose rent control which allowed only regulated and marginal increases in rent. This and a subsequent "rent freeze" imposed after Independence in 1948 certainly helped the low-income population, in that "it maintained housing at rents they can afford in locations which they would have lost, but for the Rent Act."[9]

Many consider the Rent Act the prime cause of reduced investment in rental housing by the private sector, as evidenced by small private sector provision of housing for the city's low-income groups. However, indications are that rent control may have had a marginal impact on new housing produced. Even before the enacting of this legislation, rising prices of land and

materials, shortages of materials, rising labour costs and unattractive returns on capital had led the private sector to reduce investment in low-income housing in favour of middle-class and upper-class housing, a trend that was already clear by 1938.[10]

There is also not much difference in the composition of housing types built by the private sector before and after the Act: the chawl proportion of total private construction decreased from 54 per cent in the pre-Act period to 51 per cent in the post-Act period, while the proportion of ownership flats increased from 31 per cent to 37 per cent.[11] Similarly, there have been only marginal changes in the tenancy status of dwellings; while 85 per cent of pre-Act dwellings were built for rental, 80 per cent of post-Act dwellings were still for rental. Although there has been a shortage of private low-rental accommodation in the post-Act period, the same can be said for the pre-Act period, since the composition of private sector provision of housing has not changed in the intervening years.[12] The causes of the shortage in low-rental housing must, thus, lie elsewhere - probably, in the fact that a change in market conditions which came about in the 1950s made construction for ownership a feasible as well as a profitable proposition in general, and in the fact that only free market rental units could have provided comparable profits. The latter would have caused a complete removal of the poor from existing housing.

The most important negative effect of rent control has, however, been in the cases of relatively affluent tenants, often fairly rich households, who are paying rents far below their economic capacity. In these cases, even when families buy a second house or apartment, they continue to use the slum tenement as "part-time home"-cum-business premises. Rent control, in such cases, has acted as a subsidy. There are, also cases in which poor households' tenancies have been bought out by commercial firms, through the payment of "extra-rental charges" called pugdee (a capital sum comparable to buying for ownership). While the profits acquired by the "seller" are privately pocketed, the buyer continues to pay the old low rents, and public authorities continue to collect low taxes as before, in spite of the transfer.

Rent control in itself is not a long-term solution. While the legislation is not primarily responsible for the decay and dilapidation of old buildings, it has, no doubt, helped hasten the already existing process of deterioration. The debate about rent control - whether to keep it in place, adjust it or remove it outright - centres primarily on the issue of an existing group of protected tenants who, by virtue of the rent control legislation, cannot be evicted. The size of the low-income population finding shelter in rent-controlled stock, which would be lost if the protecting legislation was removed, has acted as a sufficient

deterrent to successive administrations acting to change the status quo. The issue facing government in Bombay has become, therefore, one of how to arrest the process of widespread dilapidation of the existing stock while safeguarding the right to stay of the low-income groups which occupy it.

D. Housing stock typology

Accepting that the main cause of dilapidation is a shortage in supply of adequate housing, resulting in overcrowding (and that rent control may have created a situation in which landlords have lost whatever little interest they may have had in maintaining their properties), it is important to look at the existing housing stock, its users, its physical condition and the specific areas of physical decay of these buildings.

The majority (over 80 per cent of the total) of these buildings are over 45 years old.

A BMC survey from the late 1970s shows that there were 30,237 dilapidated buildings, out of which 1752 were beyond economic repair, 8707 were considered to have a life span of less than five years, and the remaining 19,778 were expected to last between 5 and 15 years.[13/] A subsequent report (1981) of the Steering Group for Slums and Dilapidated Houses, also known as the Kerkar Committee, points out that the problem might have increased by 50 per cent since the survey was completed in 1971.

The magnitude of the problem may be underestimated by these figures since the classification of old buildings into the various categories and their breakdown by wards is made up from a list of only those buildings upon which a "repair cess" has been levied. This applies only to tenanted buildings owned by private landlords, and stock owned by public sector agencies has not been included (the assumption in this distinction is that public agencies can maintain their property without having to depend upon and without passing the liability on to another public agency). However, the properties owned by public agencies are in no less serious a state of dilapidation than those owned by private landlords, and, what is more important, the share of publicly owned buildings is fairly high. State landlordism has in this case, proved to be a very severe liability: neglect by public agencies (Port Authority, Railway etc.) of the housing they own is based on long-term speculative plans for redevelopment of the properties for uses other than low-income housing, as well as inadequacy of agency resources and manpower.

The bulk of the dilapidated housing stock is occupied by low-income people. The dominant form of such housing, the chawls, accommodate 80 per cent of the low-income households within the city limits; of this total 90 per cent live in one room dwellings, irrespective of household size.[14] Chawls alone constitute 74.4 per cent of the total housing stock in Greater Bombay.[15] Thus, out of every five dwelling units in Bombay, at least three are chawls.

The majority of the chawls consist of one-room dwelling units with shared facilities, such as toilets, staircases and corridors. The average size of households living in chawls is 6.3.[16] This average of 6.3 persons is quite deceptive in the sense that at the upper end of the scale, sometimes as many as 40 persons live in a dwelling unit. Only "permanent" residents have been accounted for in the survey; the anomolous pattern of occupation previously described, whereby large number of workers without proper accommodation share a chawl in shifts, accounts for the much higher actual rates of occupancy.

It is mostly these chawls that contribute to overcrowding and high densities at dwelling, building and neighbourhood levels. The survey shows that 77.4 per cent of households live in one-room units, with a further 14.2 per cent in two rooms, and that 81 per cent of the families occupying single rooms have no kitchen and use only provisional spaces.[17] More than 200,000 households share dwellings.

An analysis of dwellings in chawls [18] shows that they consist mostly of single-room and occasionally, two-room units but never of more than that two rooms. In the case of single-room units, most household activities extend outside the private domain into common corridors. Extra space is invariably added by constructing a light mezzanine floor (a loft) within the tenement while balconies, if they exist, are enclosed for use as make-shift kitchens. The mezzanine is used as extra bedspace. The washing place, called mori, is in many cases enclosed and used as a bathing area as well as a space for washing of clothes and utensils. Common facilities are overloaded (the common ratio of use for one WC is six families or more). It is conditions such as these that have contributed to densities of up to 20,000 households per hectare.

In the inner city space is a vital resource; not a centimetre of space in the dwelling lies unused. Families introduce innovative interior arrangements, in order to maximize use for a large number of occupiers. Activities spill into corridors, stairways and, even, streets. Common passages in chawls are lined with tin or clay drums for water; women prepare foodstuffs to be loaded on wheeled carts (kept in courtyards) and moved to the streets for sale. Vacant space under staircases is occupied

by small-scale commercial enterprises, such as typing and photo-copying, tiny shops sell goods of the most varied nature. Printing, book binding and repair shops are numerous, partly spilling into open spaces. At night, all the common spaces and "incidental spaces" are extensively used for sleeping purposes.

No comprehensive socio-economic data regarding the families living in chawls are available, with the exception of sample surveys done in isolated pockets. However, a survey carried out in 1980 in the old buildings of Kamathipura[19] provides data which can be considered fairly representative. This neighbourhood is one of the oldest in the city, consisting of densely-packed buildings most of which have outlived their economic life, and it can be considered a fairly typical inner-city area of Bombay.

The survey reveals that 60 per cent of the households earn less than Rs 600[20] per month, and up to 85 per cent of the total earn less than Rs 1000 per month. Considering the fact that the average household in greater Bombay spends over 65 per cent of its income on food, clothing and fuel[21], the capacity to pay for shelter is very low. Perhaps the most interesting element to emerge from the survey is the information regarding the place of work: over 84 per cent of the households work in the same building or in other neighbouring districts of the inner city. The pattern of occupation is varied but consistently rooted in the informal economy traditional of the Asian metropolis. Another interesting fact emerging from the survey is that the vast majority of the chawl dwellers have been residing there for 30 years or more. No matter how precarious his residential condition, the typical chawl dweller, a long-time resident of the area, is obviously reluctant to move to peripheral housing; he is certainly not a candidate for squatting but neither can he afford to buy new housing on the fringes of the city.

Even though they are seen by many as beneficiaries of illogical legislation, i.e. rent-control, in reality the chawl dwellers are trapped in an appalling housing situation from which they do not have the economic capacity to escape. This is contrary to established notions that the poor living in inner city rental housing are `bridge headers' who use their rental accommodation as a temporary arrangement and will soon move out to consolidate their living in peripheral settlements. The theory, originating from Latin America, at times on the basis of hard evidence, has become pervasively accepted as covering developing country inner cities in general; however, the Asian situation is in sharp contrast to this established view. Here, as the case of Bombay demonstrates, the inner-city population has consolidated its position, generation after generation, based on the typical informal economy of small firms in an urban pattern where residences, production centres and services are clustered together. The present poor chawl renters of Bombay are, in the

majority, permanent residents of the housing units they occupy as part of established communities.

E. The dilapidation of the housing stock

Structural deterioration of the housing stock has led, in several instances, to tragic house collapses. The main features of the phenomenon can be summarized as follows: housing deterioration is provoked by a combination of factors, ranging from action by external agents, original construction faults and inappropriate utilization of specific parts of the buildings.[22/] Structural collapses occur in sections of walls carrying stormwater and drainage pipes which become corroded and susceptible to leakages. The large number of buildings with wooden frames is severely affected when wooden supports absorb moisture or come into contact with water, causing bulges in the walls. Moisture similarly threatens rolled-steel joists, when the web corrodes, and reinforcement, when rust is caused by water seepage and saline atmospheric conditions. Aging of building elements induces failure of flat arches and loss of strength in mortar which, in turn, induces failure of pressed brick flooring on teakwood joists. Construction faults have been noticed in several buildings, particularly in terms of inadequate reinforcement in concrete construction.

Still, the most serious damage to structures seems to be man-made, and, for this, it seems futile to put the blame on residents, since the underlying reason is the high rate of occupancy per unit and consequent overloading of the communal parts of the buildings. In particular, toilets, bathrooms, staircases and passages are under excessive use and come too frequently into contact with water; families clean the floor with water at least once a day and often more, if they happen to take their meals squatting on the floor, as is quite common. Floor areas under sinks and in bathrooms never get a chance to dry and are, therefore, subject to the most serious structural cracks.

Unauthorized additions and alterations are also a common phenomenon; the most frequent follows changes in usage, when residential space is converted to commercial use. Party walls are added without assessing load-bearing capacity or structural stability, and installation of heavy machinery is not infrequent. Often, one or two floor are added illegally, and, in other instances, plinths have been lowered to accommodate a mezzanine floor. Religious beliefs also play a role in contributing to structural collapses: Hindu residents refuse to remove trees which take root on walls in proximity to water seepages and cause deep cracks in external walls.

A combination of unfavourable factors - severe climate, with heavy and prolonged monsoon, high salinity, extreme occupancy ratios, the impasse created by rent control resulting in landlord neglect of properties, and general inability of poor tenants to undertake repairs - has accelerated the pace of decay and brought dilapidation to hazardous levels: house collapses have become a frequent phenomenon in recent years, particularly in the 1960s. An idea of the seriousness of the phenomenon can be grasped by looking at figures for the 1970s, when the creation of an *ad hoc* agency for repair work, the Repair Board, had already led to a marked reduction in the number of house collapses (see table 1). Loss of life and property, bleak forecasts for the future survival of most of the old buildings within the city, coupled with pressure from public opinion, led to government intervention to rehabilitate the housing stock.

Table 1. Number of house collapses in Bombay City (buildings taxed under the 1969 legislation)

Year[a/]	Number of buildings collapsed	Number of persons killed	Number of persons injured	Number of persons homeless
1970/71	169	25	86	163
1971/72	127	52	102	83
1972/73	112	5	68	164
1973/74	127	3	33	40
1974/75	123	18	24	136
1975/76	107	35	55	470
1976/77	97	17	57	84
1977/78	100	20	70	268
1978/79	89	18	46	169
1979/80	129	42	80	95
1980/81	119	50	71	463
1981/82	135	22	60	n.a.
1982/83[b/]	121	23	75	n.a.

Source Maharashtra Housing and Area Development Authority

Notes: a/ Year commences on 1 April.
b/ Nine months only.

F. The Building Repair and Reconstruction Programme

1. The institutional set-up

In 1964, the State Government appointed a committee (known as the Bedekar Committee) to examine the situation whereby old housing stock was collapsing and to advise on remedial strategies. The Committee, in the report which was submitted to the Government in 1965, stressed the need to attend to the old houses by setting up an agency with a view to saving the lives of those who were exposed to the risk of house collapse, and also to saving the investment of huge sums which would otherwise be necessary for the provision of alternative accommodation for people made homeless by the collapse of neglected buildings.[23/] In particular, the Committee recommended the creation of a special department under the BMC to deal with this problem. It identified the scope of activities for this department as: demolition of old structures and construction of new ones to replace them whenever necessary; construction of transit camps to accommodate temporarily displaced households, and undertaking of "special repairs" to dilapidated buildings. The accent of the report was clearly on repairs, total reconstruction was seen as necessary only for those buildings which were in a dangerous condition and likely to collapse fairly soon. In 1969, the Bombay Repair and Reconstruction Board Act was passed by the State legislature and an agency called Bombay Building Repair and Reconstruction Board (BBR&RB) was constituted in 1971, under State Government control, to take care of the repair and reconstruction of old and dilapidated buildings within the city area of Bombay. This was a unique step by which the State Government assumed responsibility for repair and reconstruction, and levied a repair cess on about 20,000 totally or partially residential buildings.[24/]

2. Scope and target of public sector intervention

The legal framework under which the repair and reconstruction programme started was provided by the Bombay Building and Reconstruction Act of 1969 which defines the scope of the work of repair and reconstruction of dilapidated buildings. The activities of the Board are threefold:

(a) Structural repairs;
(b) Reconstruction;
(c) Transit camp provision.

At least initially, the emphasis was on repair rather than reconstruction; the Programme was viewed as an emergency measure to put an end to house collapses, rather than as an opportunity for redevelopment. A priority list of buildings was determined by the Board, covering buildings on which a cess had been levied, known as the repair and reconstruction cess. The cess is based on a differential scale according to the ratable value of the property and age of the building.

The number of reconstruction cases was assumed to be relatively low (2000 buildings, containing roughly 20,000 tenements out of the total 19,642 listed buildings). The remaining buildings, estimated in 1969 to contain as many as 120,000 tenements, were to be repaired. Reconstruction was to be limited to those old and dilapidated buildings which were beyond economic repair. An important distinction between the two types of intervention is of a legal nature: in the case of buildings to be repaired by the Board, the existing ownership and tenurial pattern remains unchanged; in the case of buildings beyond economic repair, the properties would be acquired by the Board, through the State Government, demolished and reconstructed, with a view to rehousing as many original occupiers as possible who will then become tenants of the Board.

3. Financial framework

The funds of the Board consist of:

(a) The contribution from the State Government;

(b) The contribution from the Municipal Corporation of Greater Bombay (MCGB);

(c) The Repair cess which includes landlords' and tenants' contributions;

(d) Other miscellaneous resources, such as ad hoc grants and loans.

The repair cess, a sort of urban tax paid by the beneficiaries towards the financial burden of the scheme, is a crucial element to the sustainability of the Programme. The cess is charged in relation to the value of a property, which is decided by the BMC and MCGB collects the cess in the same manner as it collects property tax.

The landlords have to pay a minimum of 10 per cent of the cess themselves and are empowered to pass on up to 90 per cent to the tenants in proportion to the rents that various tenants pay. Tenants defaulting for over six months in payment of rent which includes an element of cess are liable to be evicted by the landlord, a matter that is usually taken up in the small causes court (a civil court). If a landlord deliberately does not collect rent or cess from a tenant (which happens when landlords wish to disprove tenancy) the tenant can offer the amount through a cheque or postal money transfer and whether the landlord accepts it or not is immaterial, because the tenant would thereby have proved his intention to pay. The cess is periodically increased to match increases in repair costs, for which the Board fixes a ceiling amount per square metre.[25]

The cess applies to all buildings earmarked for repair, while, as mentioned earlier, buildings to be demolished and reconstructed are acquired by the Board. The concept of "beyond economic repair" which prompts the Board to undertake demolition and reconstruction is not based solely on a technical assessment of the expenses involved in the repair of any given building but includes an element of "willingness to pay" on the part of the tenants. When the estimated amount for repairs exceeds the ceiling limit, the tenants are expected to pay the difference or else the building is removed from the repair list and is included in the demolition and reconstruction list.

4. Tenurial provisions

"Occupants" is the legal term used by the Act to cover tenants and sub-tenants. The use of the category "occupant" has helped overcome complicated problems of variety of tenancy and multiple claims for tenancies. The undertaking of repair does not, in any way, disturb existing relationships between landlords and occupiers. Intervention by the Board does not increase or decrease anyone's claim on the share of the property. Since existing relationships continue to prevail, whether the occupiers move to transit camps or make their own private arrangements for temporary accommodation is immaterial, in the sense that the rent is paid to the landlord even during the period of non-occupation of the building. A consequence of this arrangement is that those who move to transit camps, while their dwelling is being repaired, do not pay any rent for transit accommodation. However, in the case of a house warranting reconstruction, the landlord-tenant/occupier relationship comes to an end when the old building disappears from the site. The property is acquired by the Board, and from that time on, the occupants become tenants of the Board, so that the occupants living in transit tenements have to pay rent to the "new landlord", i.e. the Board. The existing Rent Act ceases to apply in reconstructed buildings, and a new subsidized rent is fixed.

Land acquisition is done under section 92 of the Maharastra Housing and Area Development Act, 1976. Compensation to be paid to the landlord is usually calculated at the rate of 100 times the average monthly income during the five years preceeding the year of acquisition.

5. Problems and limitations of intervention by the Repair and Reconstruction Programme

Prior to analysing the performance of the two distinct programmes, repair and reconstruction, a few points need to be made concerning problems and limitations in the overall programme. At the start of the Programme, it was assumed that the Bombay Housing & Area Development Board (BHABD) would be able to achieve its target, confined to the approximately 20,000 buildings in the official list, within 10 years. Therefore, the validity of the Maharastra Housing and Area Development Act of 1976 was expected to continue up to the end of 1985.

This reflected a tendency to perceive the problem of house dilapidation as a static one, to be addressed by ad hoc intervention. In reality, it is inconceivable that the problem will ever disappear; as an example, even some of the buildings constructed by Maharastra Housing & Area Development Authority (MHADA) 10 years ago already require urgent repairs. The Government has recognized this inherent limitation in legal provisions and the Act has consequently been recently extended, although the new modalities of intervention are not yet entirely clear. Another limitation of the Act is that the repair and reconstruction activities are confined only to the island city of Bombay and excluded from the massive suburban areas which also contain large numbers of tenanted buildings requiring repairs.

The imposition of cess is restricted to residential buildings and to those buildings which have a residential component: purely commercial buildings are excluded. As mentioned before, the buildings belonging to public agencies are also exempted from the payment of cess, and they fall outside the scope of repair and reconstruction. Since exclusively commercial buildings are exempted from cess and repair intervention, many buildings which were earlier cessed are decessed on the grounds that changes in use have taken place from partial residential use to full commercial use.

Prior to assessing the performance of the overall Programme, a detailed analysis of the separate repair and reconstruction programme is given.

6. The Repair Programme

1. Modalities

From 1969 to the end of March 1984 the Board repaired 8838 dilapidated buildings; in March 1984, work was in progress in roughly 1000 additional buildings - far short of the 17,000 target envisaged by the original priority list. An interesting feature of the repair programme is the flexibility which it allows for a variety of actors to undertake repairs. Broadly speaking, the responsibility for carrying out work can rest either upon the Board or upon the occupiers. Utilizing occupiers as agents can mean that many different solutions have to be found, case by case, based upon the tenurial relationships existing in any given building.

Under the category "occupier", repairs can be undertaken either by the landlord or by the tenants or, in certain cases, through a partnership of the two.

While the majority of repair cases have so far been undertaken by the Board itself (6805 cases by the end of March 1984), the repair cases undertaken by occupiers are by no means insignificant in number (2033 at the same date) and have implications for future trends.

Occupier-managed repairs are carried out after obtaining a "No Objection Certificate" (NOC) from BMC. A detailed breakdown of the number of repairs undertaken by either landlord or tenant is not available and figures are not up to date. Landlords whose buildings are on the official Repair List decide at times to undertake repairs on their own. This happens mostly when tenants refuse to pay the increase in cess to be levied after repairs are undertaken. Such increases can be close to 100 per cent. Mostly it is the owners of buildings parts of which are in commercial use who decide to invest directly in the maintenance and repair of the structure.

Cases of tenant-managed repairs occur mostly when some form of cohesion exists among the tenants, whether or not in an organized form, coupled with initiative and a good degree of familiarity with rules, bureaucratic procedures and formalities. Often, tenants' communities have been encouraged by social workers to take over managerial responsibility for repair work, and tenants' associations are, at times, formed for this purpose. In such cases, tenants' associations come forward and offer to undertake repair works directly and claim reimbursement from the Board up to a ceiling of Rs 300 per square metre.

The only available figure regarding the number of such cases is 693 by the end of 1975. There are obviously many more by now, and their importance is greater in terms of impact on future trends of the Programme than in terms of their actual numbers so far.

Landlord-tenant partnership cases are extremely rare, limited to those instances in which the relationship between the parties is based upon kinship, trade or business. It must be noted, however, that the element of partnership is implicit for all cases because of the element of payment of cess, shared by landlords and tenants.

Public funds, whether directly invested by the Board or reimbursed to the occupiers, are restricted to structural repairs. The complicated nature of work entailed in repairing old structures makes it difficult to predetermine the exact cost of repairs. A 50 per cent increase above original estimate is allowed subject to approval by the deputy chief engineer acting upon recommendation from executive engineers in the field.

Buildings the structural conditions of which are not overly precarious are simply propped up according to a plan prepared floor by floor on site. It frequently occurs that parts of buildings on the repair list require demolition. This is entrusted to BMC which is then reimbursed by the Board. Repair at times borders on full reconstruction: in several cases, entire buildings are demolished and reconstructed with the exception of the ground floor. Still, such cases fall under the repair programme, and the importance of this is that by ostensibly "repairing" the building, the tenurial relationship is not altered, unlike the case of complete demolition followed by total reconstruction, where the Board acquires the property and becomes the landlord. This is one of the reasons for preserving the ground floor: if the tenurial relationship is to continue, the building must, technically speaking, still be in existence. Another reason for this practice is to prevent encroachments on the site in the interval between demolition and reconstruction, which can be extended in time by procedural delays. The Board also tries, as much as possible, not to disrupt economic activities, normally located on the ground floor.

When the nature of repair requires that some or all of the occupiers vacate the premises, the Board serves notice giving them between two weeks and a month to move to transit accommodation. The Board is also empowered to evict those who refuse to vacate. As a rule, the Board tries to keep as many residents as possible in the buildings for the whole duration of repairs. There are several reasons for this, mainly the shortage in transit accommodation and the desire to avoid loss of income for

the residents, most of whom work in the area and very often have commercial activities in the premises.

It is common in Bombay to see families living precariously in broken-up structures, at times even without a facade, patiently waiting for repairs to be completed. In such cases, replacement of structural members is done progressively, room by room, shifting the occupants as the work proceeds.

This has technical implications: the presence of the occupants in the building makes it imperative that unnecessary delays be avoided. The work cycle is of course slower than if residents were not allowed to stay in the premises, and it is imperative that the minimum possible time be spent between removing obsolete or inadequate structural members and replacing them. Hence, the frequent use of pre-cast and prefabricated materials, in lieu of in-situ reinforced concrete construction, in spite of high cost. Replacement of teakwood posts, beams and joists is carried out room by room in a vertical column in a single stretch.[26]

2. Problems and limitations

A programme, such as the one of repair carried out in Bombay, was bound from the beginning to encounter multiple problems of a technical, institutional and legal nature. The very fact of intervention in the inner city, aimed at dilapidated old structures, involved very complex technical tasks on which little experience existed in the public sector. The complicated network of actors involved, both at the beneficiaries' level and at the institutional one, implied difficult bureaucratic procedures about which the Board had to be careful. The scale of operations and the inevitable, although temporary, displacement of beneficiaries required a continuous managerial presence. Lastly, the impact of an intervention aimed at stabilizing residents of the inner city, on which powerful interests are focused was bound to become an unprecedented test case of social and political significance. In spite of the difficulties and uncertainties, the programme has managed to achieve worthwhile results. Problems and limitations however remain, affecting the performance of the programme.

The first problems concern the priority list of buildings to be repaired. It has, at times, happened that buildings not on the priority list have collapsed. This is caused by the admittedly very difficult task of thoroughly surveying the whole of the inner city, assessing the structural fitness of each single building (for which plans and records are usually not available), and identifying and assessing affected structural

members, often hidden in the thickness of the walls. Reasons of a different nature also contribute to making it difficult for the priority list to be based upon a sound analysis: for reasons other than technical, every ward must have a "fair share" of buildings on the list, irrespective of actual repair needs. This results in particularly poor and obsolete wards receiving comparatively less attention than is needed, to the advantage of better-off neighbourhoods where the intervention is, perhaps, not so urgent.

An equity problem is posed by the blanket ceiling of Rs300 per square metre which is applied indifferently to every class of occupant, so that a uniform element of subsidy is extended to the very poor as well as the very rich, irrespective of different paying capacities.

As previously mentioned, the Board tries, as much as possible to keep residents in the premises during repair work. Although the burden on transit camps is reduced as a result and the economic activities of families do not overly suffer, other problems inevitably surface: the pace of the work is slowed down, and residents often remove props, being unaware of the risk of partial collapse which is a fairly common occurrence, to sell them. Other on-site problems include squatting by labour during and after repair works, complications in storage, difficulties of keeping track of materials and petty theft.

The labour issue is also a sensitive one: most of the contractors make use of casual labourers, which raises the problem of an institutionalized programme that profits from low-paid labour with little or no security of employment.

Legal problems occur, owing to ignorance of rules, mostly by poor and uneducated tenants, as well as to the frequent adversary relationships between landlords and tenants. In many cases, tenants are not aware that they are supposed to continue paying rent to the landlord during repairs, and accidental default, if it exceeds six months, allows the landlord to claim back the property. This problem is acute for families who have been moved to transit camps far away from their original neighbourhood and who find the notion of having to pay rent for premises they do not occupy quite unclear or who are simply not familiar with making payments through postal or banking systems. Coercion from landlords is also not uncommon, particularly after repair works have been completed, and old tenants are often forcibly replaced by new ones. The Board maintains that it is not responsible for bringing tenants back to their premises: tenants are simply evicted from transit camps within 30 days of receipt of the notification to return to the original dwelling.

Community organization and participation have been rather hard concepts to implement: initially, the programme was perceived as one of a mostly technical nature, and the Board kept only technical personnel at the field level. Those members of the staff who stayed long enough on the job to perceive the complex socio-technical nature of the work managed to achieve a great deal in establishing co-operation from and organization of affected resident communities, as well as in resolving inevitable conflicts. However, the fact that technical posts are staffed by people subject to frequent transfer in the government machinery has severely limited the potential impact of such an activity. Projects in which community participation was made easy by either the relatively high level of awareness of the residents or the intervention of outside actors, such as social workers or committed architects, have shown a high degree of efficiency, co-operation and maintenance. The extension of such a process to the overall programme remains a difficult task in the absence of efforts to re-orient and consolidate the expertise of the field staff.

Inadequate information to occupant about what exactly the repair programme entails has also generated problems which often end in the courtroom. The exact nature of repairs to be undertaken by the Board is often not clearly understood by tenants; the Board limits itself to structural repairs, and repairs not strictly linked to improving structural fitness of the building are outside its responsibility. The distinction is often unclear to tenants, as, for example, in the case of balconies which are repaired by the Board only when needed for use as common passages.

H. The reconstruction programme

1. Modalities

Buildings which are found to be beyond economic repair are earmarked for complete demolition and reconstruction. This happens when the estimated cost of repair exceeds the ceiling limit of Rs 300 per square metre. Tenants have then the possibility of volunteering to pay the amount in excess, failing which the building is included in the demolition and reconstruction list.

If reconstruction has to take place, the following steps are taken: a notice is issued[27] to the owner/occupants intimating the Board's intention to demolish the building and to prepare them to vacate the premises when ordered to do so (the Board has the right to evict tenants who refuse to move); the Board acquires the property, provides transit accommodation and offers new units in the reconstructed building to the original occupants; an architect is appointed by the Board and prepares

a draft scheme and rough estimates in collaboration with field-level technical staff of the Board. Land acquisition procedures are followed separately and must be completed before the project gets to the stage of implementation.

For purposes of reconstruction, relaxations to the Development Council Rules (DC Rules) were introduced, allowing for higher tenement densities, additional height of building (a sixth floor can be added without providing a lift) and relaxation of FSI (floor space index[28]) restrictions to allow 2.4 times the existing permissible FSI which is stipulated by BMRDA as 1.33 for the city.

Owing to the high FSI of existing buildings, the amount of surplus space the Board can generate in reconstructed buildings is rather limited. The tendency of the Board is not to use the surplus FSI allowed, if this implies the construction of high-rise buildings which would generate a significant increase in costs. Both the high level of investment which is required and the low paying capacity of the tenants are inhibiting factors to this effect. In reconstructed buildings, the Board provides single-room tenements of 14.87 square metres, with common WCs, or 16.73 square metres, for self-contained tenements.[29]

The Board, having acquired a property, charges heavily subsidized rents, both for transit accommodation and for tenements in reconstructed buildings, as follows:[30]

(a)	For residential tenements with common toilet facilities	Rs 0.40 per sq ft of carpet area per month
(b)	For residential tenements with independent toilet facilities	Rs 0.50 per sq ft of carpet area per month
(c)	For non-residential tenements with common toilet facilities	Rs 1.00 per sq ft of carpet area per month
(d)	For non-residential tenements with independent toilet facilities	Rs 1.25 per sq ft of carpet area per month

Thus, in a residential tenement, a family pays between Rs 64 and Rs 90 as basic monthly rent. In addition, a service charge at a flat rate of Rs 26 per month is recovered from each occupant, to cover the maintenance of common passages, charges for electric and water supply, running costs of pumps and overhead expenditures for maintenance staff, such as sweepers and cleaners. These amounts may look negligible but are still well above what families pay as rent in all cessed buildings covered by rent control.

Details of the performance of the reconstruction programme, since the inception of the Board, are as follows:[317]

Total number of buildings reconstructed up to 30 September 1983 (totalling 11,441 tenements)	150
Total number of old buildings demolished up to 30 September 1983 (totalling 9236 tenements)	303

2. Problems and limitations

The heavily subsidized rent which the Board charges to the tenants falls far short of recovering the cost of construction, let alone maintenance and upkeep of the buildings. As mentioned before, reconstruction is perceived as the residual element of the dominant programme of repair. This is demonstrated by the rather low number of reconstructed buildings so far. However, the current modality of declaring a building as "beyond economic repair", purely on refusal by the occupants to pay the amount in excess of the stipulated ceiling for repairs (a trend which is increasing), is threatening to undermine the financial sustainability of the Board.

The relatively low standards of space, material and infrastructure adopted in reconstructed buildings (dwelling sizes of 16, 18 and 20 sq m) has the advantage of making the newly built dwellings deliberately unattractive for high income groups, avoiding pressure on poor families to relinquish their tenancy, but rigid adherence to this creates other problems. The affluent minority in old cessed buildings is not allowed to undertake reconstruction on their own or through landlords. The very small sizes of dwellings stipulated by the Board make reconstruction unfeasible and unacceptable to occupants who are used to occupying large spaces.

Public-sector landlordism has its own problems: both its effectiveness and economic viability can definitely be questioned. Maintenance of properties is neglected, and reconstructed buildings resemble old dilapidated buildings in a matter of a few years. Non-payment of rent is a common phenomenon, tenants knowing that a public landlord is normally less harsh than a private one in taking punitive action. A sample survey has established rent arrears between Rs 500 to Rs 3000 in the case of a majority of tenants in reconstructed buildings. Thus, the wisdom of the Board in assuming an exclusive responsibility for reconstructing buildings and not allowing landlords or tenants to take the initiative is questionable.

Reconstruction schemes are faced with bottlenecks and inordinate delays. There are many steps to be followed and formalities to be met. The completion of land acquisition procedures and technical acceptance of draft schemes seldom coincide; getting possession of land is invariably delayed; schemes rarely progress as per schedule, and litigation is common; delays are also caused by occupants' refusal to vacate premises.

I. The financial implications: repair vs. reconstruction

Since the middle of 1980, policies regarding repair and reconstruction of old and dilapidated buildings in Bombay have been under review. In spite of protracted official deliberations and endless public debate, no firm policy has emerged. Rehabilitation of nearly 16,000 buildings (constructed before 1940) in the next 25 years at an estimated cost of Rs 12 billion is indeed a daunting task.[32]

In terms of the economic and financial implications of repair and reconstruction, there is a generally prevailing impression that repairs to old and dilapidated buildings extend their lives by only 10 to 15 years, which helps merely to postpone the inevitable, i.e., reconstruction. Hence, repairs are regarded as a rather unsatisfactory way of tackling the problems of old buildings. The expensive solution of reconstructing buildings is, therefore, often suggested as an alternative to repairs: it is argued that dilapidated buildings are beyond economic repair and that it is cheaper in the long run to reconstruct a building, although at an initially higher cost. In recent years, the unexpected collapse of a few buildings which had previously been repaired by the Board has fuelled the argument in favour of reconstruction, which is supported also by some of the technical staff, arguing that repairing old buildings is by far a more complex task than rebuilding anew. However, a counter-argument in favour of repair emerges from the separate assessment of the financial implications of the two programmes.

Under the current repair policy, BHADB undertakes the repair and replacement of key structural components, such as wooden posts, joists, beams and structural members of the roof, the repair of toilet units, plumbing and water supply systems, and the repair of staircases etc. The cost of such repairs is limited to Rs 200 per square metre of floor area of the building (increased to Rs 300 per square metre from 9 August 1983). It is assumed that such repairs will extend the life of the building by 15 years. The recovery of the cost of repairs is represented by the payment of repair cess before such repairs are undertaken (for an average period of six years) and by enhanced rates after repairs are completed.

Under a typical reconstruction scheme, the life of a reconstructed building is assumed to be 80 years, and the capital cost is estimated to be around Rs 1500 per square metre of built-up area. Recurrent costs considered in the analysis include maintenance and repair costs (at the rate of 1.5 per cent of the capital cost) and municipal taxes. The cost recovery is represented by the rent charged to the tenants of the reconstructed building at a rate of Rs 0.50 per square foot of carpet area.

Table 2 evaluates the cost of providing housing accommodation for a period of 50 years either by repairing an old building (including repeated repairs after 15 years) or by reconstructing it.[33/] The current value of the cost is calculated at a discount rate of 12 per cent. As the table indicates, the cost of providing a future life of 50 years to an old building through repeated repairs is Rs 245 per square metre as against Rs 1734 involved in reconstructing a building. Similarly, the cost recovery under the repair scheme is currently 58 per cent of the cost, against 25 per cent under the reconstruction scheme. In absolute terms, it implies a subsidy of Rs 1440 per family under the repair scheme, as against Rs 18,240 per family in the reconstruction scheme. The subsidy under the reconstruction scheme would appear more astounding still, if the qualitative aspect of the benefits under the two schemes were taken into account: as mentioned previously, several reconstructed buildings are already in extreme need of repair.

Aside from the cost-effectiveness of repairs, as shown above, it is the low level of investment per family that should make repairs a favoured option. In view of the limited availability of funds for the Repairs and Reconstruction Programme, it is always advisable to deploy funds for repairs, so that the benefits of the Programme reach the largest numbers. Even if an analysis of this type is carried out for a level of repairs at a cost of Rs 400 per square metre and a total renovation of the building at a cost of Rs 800 to Rs 1000, giving a future useful life of 25 to 50 years respectively, the reconstruction will appear the less cost effective solution.

Table 2. Statement showing investment on and return from repairs and reconstruction schemes

Option	- Cost - Recovery	Rs per square metre per year									Current value of cost and receipts 12 per cent	Percentage of recovery to cost
		Yrs -6 to 0		Yrs 1-14	Yrs 15	Yrs 16-29	Yrs 30	Yrs 31-44	Yrs 45	Yrs 41-50		
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)
I. Structural repairs:	Cost	-	200	-	200	-	200	-	200	-	244.43	58.22
	Recovery	4.75	-	12.50	12.50	12.50	12.50	12.50	12.50	12.50	142.31	
II. Reconstruction:	Cost		1500	28.15	28.15	28.15	28.15	28.15	28.15	28.15	1733.77	25.45
	Recovery	4.75	-	48.50	48.50	48.50	48.50	48.50	48.50	48.50	441.27	

Notes:

1. Recoveries in Column (3) represent payments of repair cess prior to undertaking repairs or reconstruction (assumed for an average period of 6 years).

2. The recoveries under Option I are amount of repair cess payable before and after repairs. The cess rate derived from the observation of average gross rent of Rs.25 p.m. paid in Kamathipura area for an average carpet area of 14.11 square metres.

3. Recurring costs under Option II are based on current rates of maintenance and repair charges and municipal taxes at the rate of Rs 0.29/square foot of carpet area and recoveries at a rate of Rs 0.50/square foot of carpet area.

In terms of requirements of public resources, cost effectiveness and cost recovery, the seemingly modest programme of repair is far more efficient than the more ambitious programme of reconstruction. The resource requirement of reconstruction is five to seven times that of the repair scheme, and reconstruction is so unremunerative that even the maintenance and repair charges and municipal taxes for the reconstructed buildings are not covered by the rents paid by the occupants. In this sense, by not allowing for proper maintenance and upkeep, reconstruction perpetuates a situation that has been responsible for the present state of disrepair in the old and dilapidated buildings.

J. New trends and replicability

The Maharastra Housing and Area Development Act has recently been given a new lease of life, the State Government having realized that the problem of dilapidation could not be resolved with an ad hoc intervention limited in time, and had to be seen as an integral part of the housing system of Bombay. Although it is premature to derive precise indications as to how the renewed Programme will operate, trends can be identified which emerged in recent years during the implementation of the original Programme.

Reconstruction is to be given new emphasis, in spite of its limited cost-effectiveness; a drastic change in financing and management modalities is expected, however, to transfer to the occupant part of the burden so far shouldered by the Board in terms of development and maintenance costs.

The reasons for the increased emphasis on reconstruction are various in nature. The perception that repair is but a temporary measure to postpone the inevitable demolition of dilapidated buildings obviously played an important part in bringing about renewed emphasis on reconstruction. This feeling was buttressed by the already mentioned unexpected collapse of a few repaired buildings, by the inherent technical difficulties posed by repair and by the influence of a powerful lobby interested in redevelopment of valuable properties. However, the exceedingly high element of subsidy implied by reconstruction and the constraints in mobilizing resources have made the State Government realize that MHADA cannot afford directly to undertake and finance the operation. In December 1984, a decision was taken to the effect that landlords and tenants should be encouraged to come forward and shoulder the burden of reconstruction.

The following conditions were spelled out:

(a) All the existing occupants of the old building shall be rehabilitated in the reconstructed building;

(b) Every occupant shall, as far as possible, be given an area in the reconstructed building which is equal to the area of his old tenement, in any case not less than is permitted according to the DC Rules (in no case, will this area be more than 70 sq m);

(c) MHADA will certify the list of existing occupants and the area occupied by them;

(d) The allotment of tenements in the reconstructed building will be done by the landlord or the co-operative society of occupants, only after the list of existing occupants is certified by MHADA;

(e) After rehabilitating all the existing occupants, a part of FSI will be used for rehabilitating tenants living in MHADA's transit camps (these tenements will be sold to residents from camps at a rate of Rs 135 per sq ft, the rate fixed by the State Government for tenements constructed under the Urban Land Ceiling Act);

(f) The existing tenants will have to buy tenements in the reconstructed building (in this connection, the existing tenants are expected to arrive at a settlement with the landlord);

(g) It is with the mutual consent of the tenants and the landlord that the scheme will be implemented, and approval for reconstruction will be granted only where 70 per cent or more of the existing tenants are willing to join (the 30 per cent of tenants who do not participate in the scheme will be offered accommodation in transit camps and will be charged economic rent for the same);

(h) While the building is being reconstructed, alternative accommodation for the existing occupants will have to be provided by the landlord or by the co-operative society of the tenants, as the case may be;

(i) If the landlord is not prepared to redevelop his property, it will be acquired and will be handed over to the co-operative society of the residents on a 90-year lease basis;

(j) If the landlord or the residents are unable to redevelop the property, it will be offered to the residents of transit camps for development, provided they are willing to do so at their own cost.

The above conditions clearly indicate the public sector's desire to divest itself of an increasingly unbearable financial and managerial burden. The positive trend calling for direct user-participation opens, however, rather worrisome perspectives, rooted in the existing housing system of Bombay. The tenurial changes which are now made possible under the new provisions need to be carefully controlled and scrutinized, if manipulation of and pressure on poor families is to be avoided.

As indicated above, landlords have been given first option to undertake redevelopment, failing which tenants may come forward. However, a precedent can be quoted to explain the dangerous implications of this proposition. When the Ceiling on Urban Land came into being (1976), the landlords were permitted to apply for exemption from confiscation of their land, if they offered to undertake a social objective, i.e., to provide low income housing to an adequate extent. The Government had anticipated that only a small number of landlords would come forward to develop their properties, but a form of partnership between landlords and property developers emerged which managed to recover almost 100 per cent of the land from confiscation. Subsequently, newly built tenements were sold to higher-income families. The Government failed to control access to and the price of the new housing thus generated. Selling prices were far above stipulated ceiling limits, and a majority of low-income beneficiaries who were initially listed to be accommodated were either bought out or displaced, through a combination of tactics, including coercion and force.

Admittedly the contexts are different, reconstruction implying redevelopment (rather than new development), with liability for accommodating existing tenants and with a control mechanism against abuse. However, several publicized incidents in existing redevelopment schemes have already occurred to justify concern over the effectiveness of control mechanisms of any sort against powerful combined interests of landlords and property developers. Pressure against poor tenants to force them to move out, if precedents are an indication, is going to be heavy, and the introduction of private property-redevelopment in highly valuable areas of the city is going to open automatically unprecedented possibilities for speculation. Even the provision by which, should landlords and original tenants fail to come forward to undertake redevelopment, a group of tenants from transit camps may opt to do so, is open to manipulation, since mobilizing "puppet tenants" would not be difficult for private developers interested in the property. Vigilance against abuses will inevitably be a hard task for the Board.

The new emphasis on tenants' co-operatives is a welcome and promising element. Attempts, in the past. to form tenants' co-operatives have not been successful, but the tenants' associations formed, in several cases, to undertake and manage

repairs and maintenance have provided a meaningful signal of possibilities lying ahead. It has, by now, become quite clear that public and private landlordism has inherent limitations in meeting social objectives, and as early as 1975, the Rent Act Enquiry Committee recommended that Government acquire old properties and vest them in the hands of tenants' co-operatives. Although kept under consideration by the Government ever since, the proposal is now meant to be extended to the reconstruction programme and without Government acquiring the property. There is no reason why this should not be considered a general approach for the dominant repair programme as well, when reconstruction need not be undertaken. Owing to limited affordability, the scope for tenants' co-operatives is going to be inevitably limited in reconstruction, while, on the contrary, their resources could be successfully mobilized in the much less expensive instances of repair.

The original modality of carrying out reconstruction through the Board did achieve the main 'equity objective' of ensuring that existing tenants would be rehabilitated in new premises. At the same time, limited resources in the public sector affected the objective of replacing old and unsafe housing stock with new. As a result, Government has opted out of financing and managing reconstruction, in an attempt to meet both objectives at the same time, relying on the private sector. Whether the Government, in the circumstances, will be able to ensure the stability of the original residents remains to be seen.

A comparative assessment carried out on the benefits and costs of the individual programmes of repair and reconstruction shows unmistakably that replicability can be ensured only by keeping alive and strengthening the repair component of the scheme. Relatively low investments and equivalent, if not better, returns, as compared to reconstruction, in terms of contribution to housing stock, social affordability and rate of recovery, are factors which clearly point in this direction.

ABBREVIATIONS:

BBRRB:	Bombay Building Repair and Reconstruction Board
BHADB:	Bombay Housing and Area Development Board
BMC:	Bombay Municipal Corporation
MCGB:	Municipal Corporation of Greater Bombay
MHADA:	Maharastra Housing and Area Development Authority.

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1. Government of Maharastra, Development Plan of Greater Bombay (Bombay, 1972).

2. There are three distinct administrative levels defining the urban agglomeration of Bombay: (a) the Bombay Metropolitan Region (BMR) under the planning jurisdiction of the Bombay Metropolitan Region Development Authority (BMRDA); (b) Greater Bombay under the jurisdiction of the Municipal Corporation of Greater Bombay (MCGB or BMC); and (c) the island-city of Bombay which is a clear geographic (and historic) entity separated from the suburbs by a creek.

3. Government of Maharastra, op. cit.

4. H.W. Richardson, "Bombay City study" (final draft), (Washington, D.C., World Bank, 1980).

5. BMRDA, "Affordable low income shelter programme in Bombay Metropolis Region", (Bombay, 1982).

6. Government of Maharastra, Census of Slums, (Bombay, 1976).

7. See the report of the High-power Steering Group for Slums and Dilapidated Houses, August 1981, popularly known as "The Kerkar Committee"; and P.K. Muttagi, "A socio-economic study of households living in the buildings of the Bombay Housing and Area Development Board", Bombay, 1984.

8. Urban Housing Review, Development Planning Unit, Monograph, London, 1977.

9. P. Ramachandran, and S.D.D. Pillai, TISS series, (Bombay, Tata Institute of Social Sciences, 1977).

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13. A survey done by the Bombay Building Repair and Reconstruction Board (BBRRB), now known as Bombay Housing and Area Development Board (BHADB), at its inception in 1969.

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16. Mayank Shah, "Chawls": SG : Popular dwellings in Bombay, MIT (Cambridge School of Architecture and Planning, 1981).

17. Government of Maharastra - Census of 1971.

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19. *Feasibility Report on Urban Renewal Scheme for Kamathipura*, (Bombay, BMRDA and BHADB, 1981).

20. $ US1 = Rs.12.

21. BMRDA, "Affordable low-income shelter programme in Bombay Metropolitan Region" (Bombay, 1982).

22. R.P. Phadke, "Indian Experience of Rehabilitation Programmes - Repair and Reconstruction of Old Dilapidated Buildings in the Island City of Bombay" - paper presented at UNCHS *Ad Hoc* Expert Group Meeting on "Rehabilitation of the existing housing stock", New Delhi, 1982.

23. Government of Maharastra, Report of the Evaluation Committee on the Working of the Bombay Repair and Reconstruction Board (Bombay, 1973).

24. In 1977, the hitherto separate activities of new housing, conservation of existing housing stock and squatter upgrading were put under the control of one agency, the Maharastra Housing and Area Development Authority (MHADA) into which BBR&RB, the Maharastra Housing Board (MHB) until then charged with new housing construction, and the Maharastra Slum Improvement Board (MSIB) were merged.

25. R.P. Phadke, and others, MHADA internal documents, 1982. At the inception of BBR&RB, the ceiling limit was fixed as Rs 75 per sq m. This amount has been raised in successive stages; in 1974, the ceiling limit was raised to Rs 120 per sq m, in 1980, to Rs 200 per sq m, and, from 9 August 1983, to Rs 300 per sq m. The rates of repair cess are based upon a schedule determined by the age of the building and the extent of intervention by the Board.

26. R.P. Phadke, MHADA internal documents, 1982.

27. Government of Maharastra, *Maharastra Housing and Area Development Act* 1976 , Section 88 (3).

28. Floor space index (FSI) = $\frac{\text{Total built-up floor area}}{\text{Area of the site}}$

29. BHADB, internal documents.

30. P.K. Muttagi, *op cit*.

31. *Ibid*

32. A quantitative estimation made by V.K. Phatak and S.P. Pendharkar "Redevelopment of old buildings in Bombay: need for a pluralistic approach", paper presented to the Workshop in Redevelopment of Old and Dilapidated Buildings in Bombay, Bombay December 1984.

33. Ibid.

II. THE LAND-SHARING PROJECTS IN BANGKOK

A. Bangkok's inner city and its housing stock

The bulk of the urban growth in Thailand has taken place in Bangkok. The share of Bangkok in the total urban population of the country increased from 45 per cent in 1947 to 50 per cent in 1960 and to 60 per cent in 1969. In 1978, it was estimated to have increased to almost 74 per cent.[1] National development policies have led to centralization of investments - industrial, commercial and infrastructural - in the metropolitan area the population of which is now 52 times that of the next largest city in Thailand, Chiang Mai. Bangkok grew from a population of 800,000 in 1947 to 2.1 million in 1967 and to 4.7 million in 1977, and it is estimated to have reached 5.4 million in 1982 and, further, 6.1 million in 1985.[2]

However, according to the latest census, in 1980, the level of urbanization in Thailand was at the time still only 17 per cent, up from 13.2 per cent at the 1970 census levels, relatively low compared with urbanization levels of other countries in the South-East Asia, such as Indonesia, Malaysia, and the Philippines, with 20, 29 and 36 per cent, respectively.[3] The expansion of agricultural production during the 1970s and the relatively high carrying capacity of the Thai countryside are the main reasons for a comparatively low rate of rural-urban migration.

The modalities of Bangkok's development have generated, nevertheless, a considerable pressure on land for shelter. Up to the Second World War, Bangkok did not face any serious housing problem, and in the period since then, reconstruction of destroyed housing stock has been carried out mostly by commercial investors who tore down old timber houses and replaced them with new buildings for commercial and industrial purposes. This was also the period during which the composition of land ownership began to change, as land came under the ownership of the private sector, a trend which was to be consolidated in later years.[4]

In the 1950s, growing urban primacy and increasing demand for land promoted a quick process of land speculation, accompanied by a rapid increase in land values. Land development companies succeeded in asserting themselves as intermediaries between rural landowners on the fringes of the metropolitan area and plot seekers. The formalization of the land market gravely affected the poor's access to shelter which had, until then, relied upon informal practices. A very active informal private sector had been operating, making land available for the poor

through rental agreements of a temporary nature, with the result that land rents were low, and basic utilities, such as water and electricity, were often provided by the developer. Housing expenditures, including utilities, amounted, until the 1950s, to only roughly 3 to 4 per cent of the average monthly household income in the low-income sector.

Houses were built cheaply by the users, but environmental conditions remained poor, with serious health hazards posed by the predominantly marshy land with no drainage system. When the process of land speculation began in the mid-1960s, the land-rental system for the poor faced a crisis, with the appearance on the market of land-development companies, professional housing developers and building contractors.[27] The whole land market on the fringes of the city came under the control of land developers.

According to the Land Registration Department, in 1973, 97 per cent of land transactions were carried out in the private sector. Large transactions, of more than 100 rai (40 acres), were predominantly carried out by companies, and 6 per cent of purchasers acquired control over 61 per cent of the total land sold. By 1981, approximately 150-170 sq km of the fringe area of Bangkok , amounting to 37 per cent of the existing built-up area of Bangkok, had been transferred to private developers.

The consequences for the urban poor were threefold: first, the disappearance of the land rental option virtually closed the possibility for new low-income settlement development on this land; secondly, those seeking a house had to depend on the rental system in the inner city or in squatter settlements, increasing densities and affecting overall living conditions; thirdly, the quick depletion of available land on the fringes enhanced the attractiveness of existing slum areas in the city for commercially oriented development. The pressure for evictions of slums in Bangkok began to mount around that time.

B. The changing structure of the inner city

Bangkok is a multi-functional city, activities being highly decentralized in the characteristic fashion of an Asian city. The three districts of Phra Nakorn, Pom Prab and Sampantawong form what is normally called the inner city. This central business district (CBD) has the highest gross residential densities: Pom Prab has 104,208 persons per sq km, and Sampantawong 56,708 persons, compared with the gross residential density of Bangkok as a whole which is 2791 persons per sq km. The CBD is where the highest concentration of informal employment opportunities and market activities is to be found: most wholesale and retail markets and informal-sector workshops are

located there. However, the area is mostly residential, including a large number of predominantly informal commercial buildings which contain residential units as well. In a survey in 1974[6/] of 108 slums, 30 per cent of dwellings were found to be of mixed use. Penetration of the area by organized commercial enterprises has been growing, but, in 1972, Bangkok's inner city still contained 20 per cent of the residential population and 37 per cent of jobs, although accounting for only 6 per cent of the total urbanized area.[7/]

Most housing in the inner-city core was generated through the already described system of land rentals. Further densification occurred in inner-city low-income neighbourhoods following the subdivision of existing tenements, the sharing of space between families and the construction of walk-up structures. This accounts for the diversity of low-income housing types to be found in the inner city.[8/] These consist of shop-houses with single-room tenements built in addition to the commercial enterprises, old walk-ups, row tenements of one or two floors with single rooms opening on to a corridor, old single-family houses converted for multifamily occupancy, old family houses surrounded by tenements and shacks rented out to the poor while the owners continue to live in the main house, shacks built on short-term rented vacant land, and old non-residential buildings converted into walk-ups.

In most cases, sanitation and water-supply services are shared, water being frequently piped directly into the dwelling from a water main or a neighbour's house. Although an estimated 85 per cent of slum households have running water outside or inside the dwelling, low water pressure makes supply extremely scanty.[9/] In the case of electricity, 99 per cent of slum households are estimated to have electricity fed through small wires from commercial businesses.[10/] Toilet facilities, mostly pits and septic tanks, are shared by a varying number of families. Tenure is insecure in all cases, depending upon informal agreements, mostly oral, with the landlord. Private as well as public landlords allow slum dwellers to stay on land but insist upon maintaining the dweller's status as temporary occupants, with oral or written agreements ranging from one to three years.

The changing trends in the land market and the increasing demand for space for organized commercial and business enterprises has had its most severe impact on central neighbourhoods. The pace of slum evictions has been steadily increasing in recent years, although interestingly, the trend appears most pronounced for slums located on government land. About 85 per cent of all slum families renting land from government agencies are now faced with eviction, as opposed to 22 per cent of families staying on private properties.[11/]

As mentioned before, the main redevelopment pressure is on central neighbourhoods, where most slum land is owned by Government, which partly explains the great insecurity of tenure for the poor living on public land. Another explanation is the attempt by Government to maximize revenue-generating practices to cope with the overall urban crisis. Overall population figures indicate that, out of a total Bangkok population of 5.5 million in 1985, more than 1 million people lived in slums and squatter settlements (1020 communities altogether), of which 272,000 were under threat of eviction.[12/]

C. The origins of land sharing

Faced with a deepening urban crisis, Bangkok's authorities reacted by implementing, on a relatively small scale, conventional housing strategies. After attempting to rehouse evicted slum dwellers in multi-storey tenements - a strategy which was quickly discarded - planning for slum upgrading was initiated in 1975, following the National Housing's Authority inception. The programme was approved by the Cabinet in 1977, and implementation began in 1979, covering approximately 80 slum areas, with a delivery of basic services. The inability to solve the tenurial problem meant, however, that upgrading failed to provide any long-term security for residents. Only in exceptional cases was NHA able to secure, from landlords, long-term leases on behalf of residents (maximum 30 years under existing law).

Agreements with landlords amounted mostly to permission to enter the slum area for purposes of sanitary upgrading, while the owners kept their options open concerning future use of the land. In 1985, 46 slum areas, previously upgraded by NHA or non-governmental organizations, were already under threat of eviction.[13/] Concurrent with the Slum Upgrading Programme, sites and services projects were initiated by NHA which has so far completed six projects for a total of 11,422 units. However, these fail to provide a solution for the large-scale problem of slum dwellers: monthly instalments range from Baht 1275 to Baht 1915,[14/] while the average household income of Bangkok's slum dwellers is estimated as being between Baht 3000 and Baht 4500 per month, complicated by the fact that 50 per cent of households do not maintain permanent jobs with a steady monthly remuneration.[15/]

The peripheral location of sites-and-services projects, moreover, implies a serious disruption of economic activities for a majority of Bangkok's slum dwellers.

The public sector's attempts, through conventional strategies, have not managed to alter the fundamental development trend in Bangkok, basically directed by market forces the goal of which is the redevelopment of valuable properties. The spate of evictions and threats of eviction of long-established low-income communities has generated diverse responses. Agreements with landlords, merely amounting to a permission to stay on, implied that most slum dwellers simply agreed to move out when asked to do so, without provision of alternative accommodation and with the minimal compensation to cover removal cost of household goods. Forms of pressure did not exclude coercion and, at times, deliberate arson. It soon became clear that the pressure posed by development trends in Bangkok and the inability of conventional slum-upgrading strategies to settle the tenurial issue called for conflict-resolution strategies which took into account the unarrestable demand for land retrieval from private and public landlords as well as the legitimate claim of the poor to their traditional urban locations. Land sharing appeared to provide a solution.

D. The concept of land sharing

Basically, land sharing is a plan to partition a plot of land, currently occupied by slum dwellers, into two parts - one part for rehousing the slum dwellers and one part for the landowner to develop to the best possible advantage. The land-sharing plan, through recognizing, implicitly or explicitly, both claims as legitimate, seeks to remove the conflict between the slum dwellers and the landowner peacefully, to defuse a potentially volatile confrontation leading to social unrest and, through taking full advantage of the development potential of the site, to create conditions where all benefit and nobody is the loser.

Land sharing is thus a compromise solution, a negotiated agreement. It requires each of the sides in the conflict to accept less than everything, to be willing to give away part of the land in exchange for a workable arrangement on the remaining part. For the slum dwellers, the arrangement means the removal of the threat of eviction, a formal land-tenure agreement and the transformation of their houses into solid investments. For the landowner, it means clearing part of the land for immediate development, rather than engaging in potentially unsuccessful tugs of war with the squatters over the plot. It also means, to the landlord, reduction of pressures both from the community and from outsiders, and of the variety of costs involved in drawn-out eviction cases, such as compensation payments, legal fees and payments to official and non-official persons involved in the eviction effort.

Clearly, then, the higher the cost of eviction to the landlord, in time, money or prestige, the more willing he will be to enter into negotiations for land sharing. Conversely, when eviction is simple and cheap and when there are no pressures on the landlord, he will usually prefer to evict the people rather than negotiate for part of the land. Similarly, if communities offer no resistance, remain disorganized and unable to articulate their position vis-a-vis the pending eviction, and if the communications and political establishments are not made aware of the struggle and cannot see the value of supporting it, the likelihood of eviction will remain high. Land sharing needs community organization and the strong support of outside organizations in the negotiating process for it to become real. Community organizations, thus, function to increase the cost of eviction to the landlord and, therefore, to make negotiations for a land sharing agreement desirable on his part.

A land-sharing agreement is the result of a long process of negotiation and struggle, not a simple plan for redeveloping a site. Simple as the plan may be, showing the division of the site into two parts and how each part may be developed in the future, underlying it is a power struggle that results in the drawing of the line of partition where it is eventually placed. Such a plan cannot be decided upon by technicians but has to come from a process of bargaining for advantage between the two parties. Such bargaining may indeed be infused with a spirit of goodwill, but it is a power struggle nevertheless, with much to lose or gain by employing the best strategy.

Land sharing usually requires clearing the better part of the land - the part with development potential owing to its inherent locational advantages - and giving it to the landlord for development or developing it jointly for the landlord to benefit from. The remaining part of the land is then used to rehouse the slum dwellers. Since the original inhabitants of the community have to be rehoused on a smaller site than before, land sharing will usually require considerable densification. As a result, housing units will have to be rebuilt using higher floor-area ratios. In cases where slum communities are already densely populated, densification may imply significant reconstruction.

The need for reconstruction may place considerable financial burdens on the participating families, making it impossible for them to rebuild their houses without some form of housing loans, cross-subsidies within the overall land-sharing project or external subsidies. As external subsidies are almost non-existent in the majority of cases, land-sharing projects need to be designed on a cost-recovery basis, internalizing all costs without placing undue burden on external sources of finance. To accomplish this,

there is usually a need to utilize some of the development gains on the redevelopment part of the scheme for a cross-subsidy to the low-income part of the scheme.

The general principles upon which to base a land-sharing project can, therefore, be synthesized as follows.[167]

Landlord-resident agreement. The principle of land sharing involves a negotiated agreement to partition the land, currently occupied by a slum community, into two parts. One part, usually the one with the best development prospects, is to be given to the landlord for redevelopment, and the other, with formal land-tenure arrangements, is to be given to the existing residents to rehouse themselves.

Community organization. The principle of community organization requires the participation of the residents in mobilizing themselves to counter the threat of eviction, to enlist the support of outside organizations and to create a leadership capable of negotiating a land-sharing agreement. Community participation is also required in the planning of the rehousing site, the allocation of plots, the demolition of structures and the reconstruction of houses.

Densification. The principle of densification involves the rehousing of the maximum number of original residents on a smaller plot than before and, hence, a considerable increase of the number of housing units per unit land area.

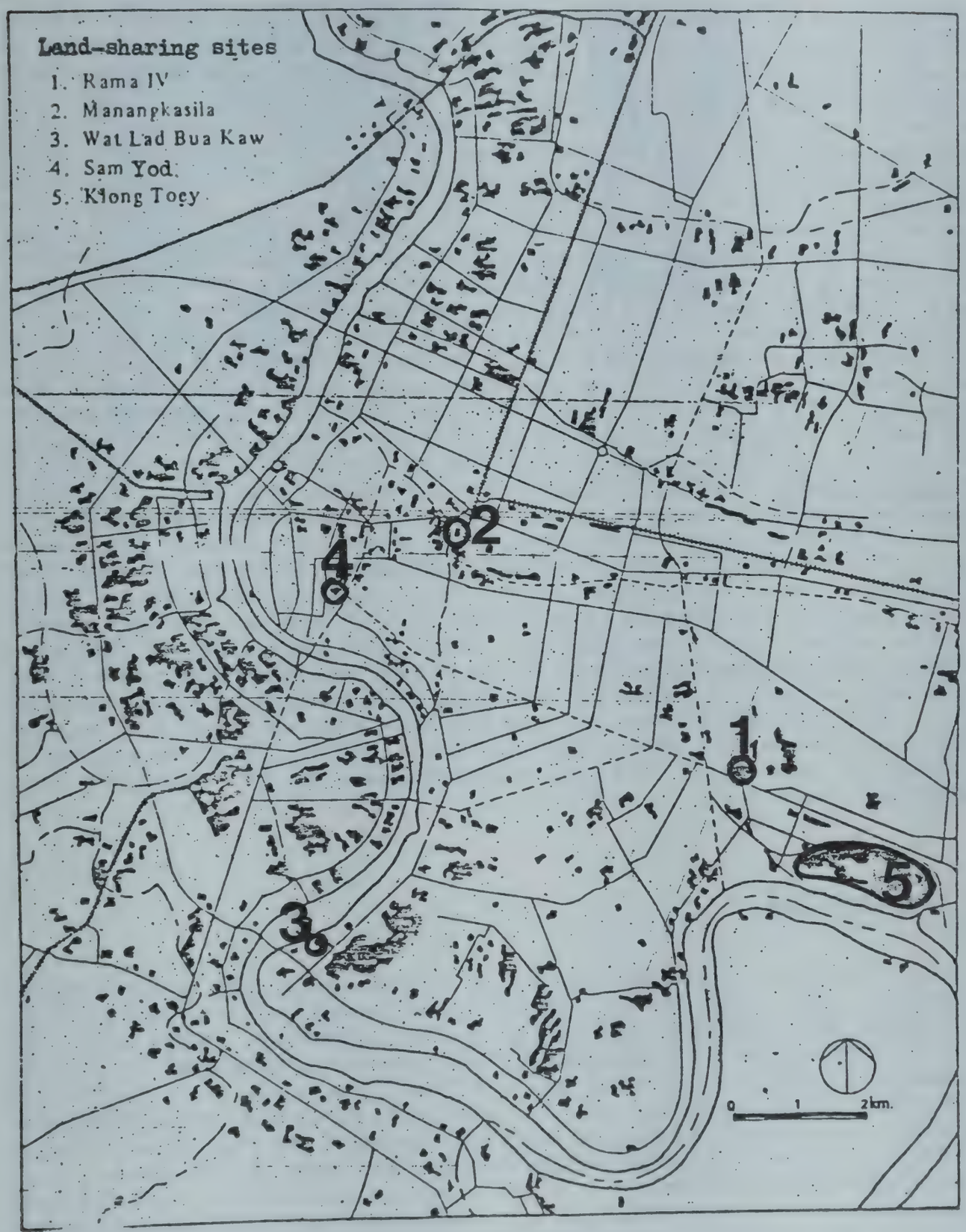
Reconstruction. The increase in residential density and the need to clear part of the site will usually result in reconstruction, that is, the rebuilding of the community in new structures, unless original densities were low enough to permit densification through infilling of vacant plots on the site. Reconstruction may require new forms of construction.

Cost recovery Reconstruction will require capital and access to sources of long-term housing loans, which will need to be arranged. To be economically feasible, the land sharing scheme cannot rely on external subsidies and must arrange for affordable housing to the residents through cross-subsidy, if necessary using some of the development gains from the sale of redeveloped property to subsidize house construction for low-income residents.

The above variables are going to determine the modalities for and the success of a land-sharing project in any low-income settlement. Existing high densities, for example, may imply either a forced selection of beneficiaries or a complete reconstruction, if all original residents are to be rehoused; this in turn, by raising construction costs, may offset the principle of internal affordability and require external subsidies which are difficult to obtain. While all these criteria have a high degree of flexibility and lend themselves to a variety of solutions, the essential factor in successful land-sharing negotiation and implementation seems to be the existence of a strong community organization among residents. What made land sharing possible in Bangkok, in a so far limited number of slums, was the emergence, over the past decade, of assertive community leadership in low-income areas; the trend was aided by the democratization process taking place in the country in recent years, while the growing concern for the continuous eviction of slum communities was strongly echoed by the communications media with a steady coverage of the plight of the poor. External support was forthcoming, through the active involvement of a number of voluntary organizations which acted as channels of information between communities and authorities, and helped finance organizational activities leading to land-sharing projects. The National Housing Authority (NHA), on its part, carried out a city-wide survey of all the slums, creating community organizations in all of them in 1977, while its officials often acted on behalf of slum communities vis-a-vis landlords.

These favourable conditions have made land sharing possible in five slum areas so far. In all cases, governmental authorities played a useful role as mediators in the long and, often, difficult negotiation process; to date, one of the projects has been completed, two are in advanced stages of implementation, and the remaining two are ready to start, agreements having been formally signed. Figure 1 shows the location of the five slums so far covered by land sharing.

Figure 1. The locations of slums in Bangkok in 1985, including the five land sharing sites



Source: S. Pornchokchai, 1020 (Bangkok, Japanese Volunteer Centre, 1985).

E. Five land-sharing projects in Bangkok

1. Rama IV

Opposition to slum eviction resulted, for the first time, in a land-sharing proposal put forward by a low-income community in the case of the slum known as Rama IV, situated on an important Bangkok traffic artery. Following fire by arson in 1966, the landlord, the Crown Property Bureau, served notice to 850 families, the majority of which had long lived in the area under a system of land rentals, to vacate the site which was, at the same time, leased to a private land-development company. The community, strong and fairly well established, resisted the eviction move and involved communications media and outside organizations in a struggle which was protracted over the following 15 years. Several proposals were put forward by the residents, all implying different degrees of "sharing" and reconstruction solutions: the last was on a 50:50 sharing ratio, to allow residents to reconstruct on a co-operative basis with their own means. The high value of the land and the high commercial redevelopment interest of the site finally prompted the company, under pressure from the public, the National Housing Authority and the Finance Ministry which is responsible for Crown Property Bureau holdings, to accept a land-sharing solution whereby 22 per cent (2.4 hectares) of land would be kept to rehouse the residents. The potential for cross-subsidization from the commercial development being extremely high, the company offered to build multistorey structures with a total of 850 flats. An agreement to this effect was reached in 1981, and detailed plans were finalized in January 1985, consisting of four eight-storey buildings, with the lowest two floors to be used as commercial units. The buildings are to remain the property of the Bureau which will lease the flats on a 20-year basis. The remaining 78 per cent of the area is to be redeveloped by the company as a commercial centre.

2. Sam Yod

Of the five projects, Sam Yod is the only one where final agreement over the details of the "sharing" process and modalities of reconstruction is still pending, although the agreement to allow the community to stay on a portion of a site has been reached. The case of Sam Yod is useful to illustrate the difficulties emerging at the negotiating table over different planning solutions, implying varying degrees of financial return to the owner, an element of subsidy from the government, and satisfaction for the users. It is also indicative of the dilemma facing government agencies caught between two opposing roles - that of a provider of welfare and that of a financially self-sustaining manager of urban growth.

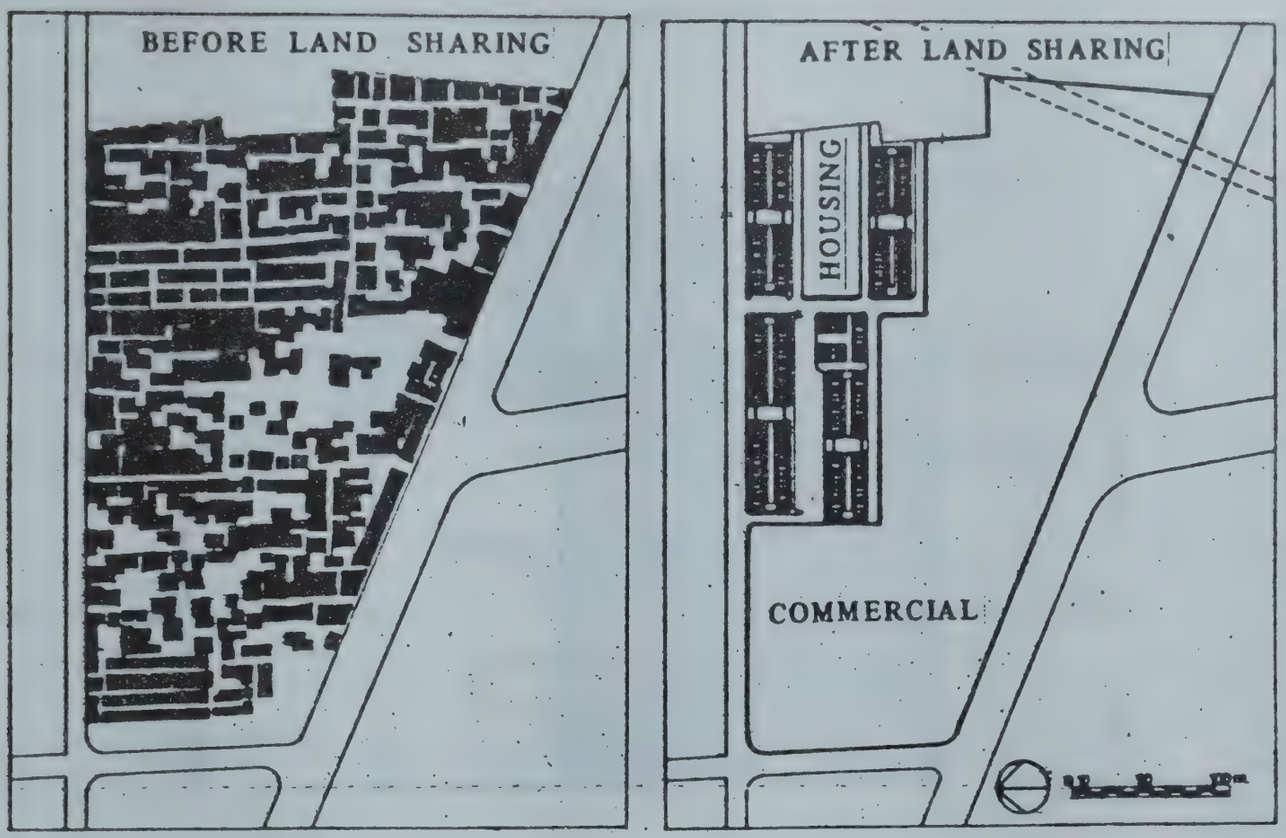


Figure 2. The Rama IV land-sharing project

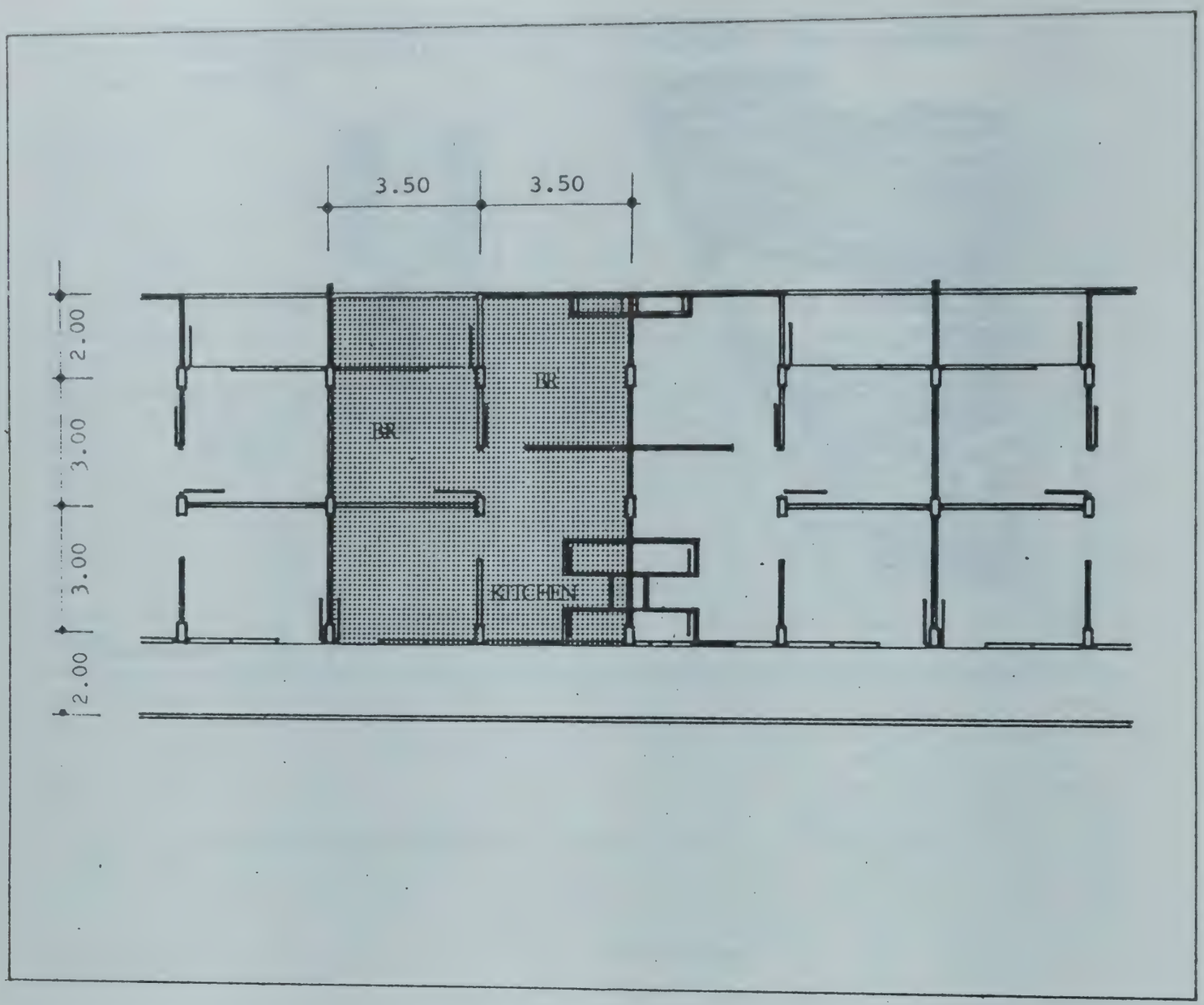


Figure 3. Rama IV land-sharing project house types

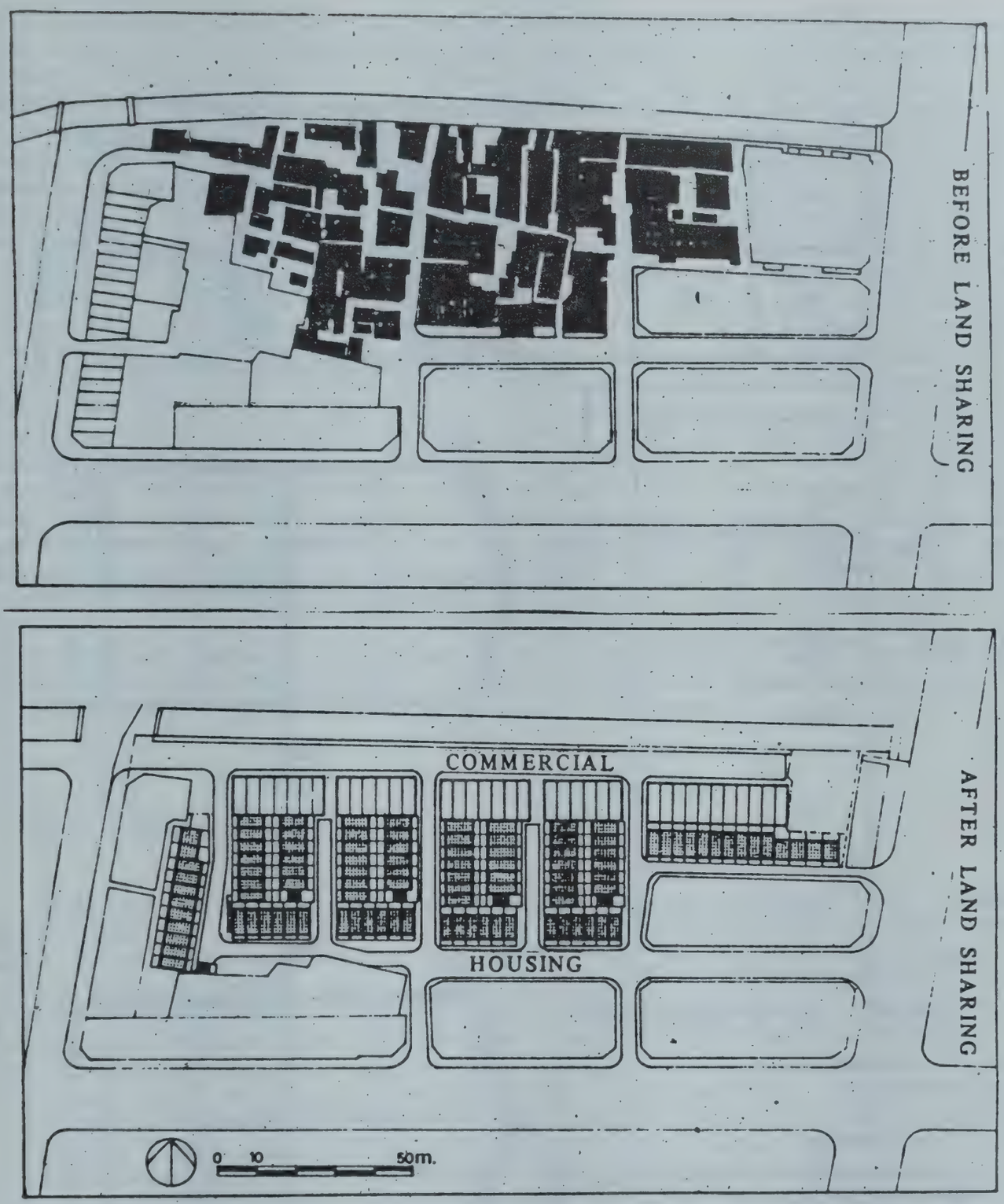


Figure 4. The Sam Yod land-sharing project

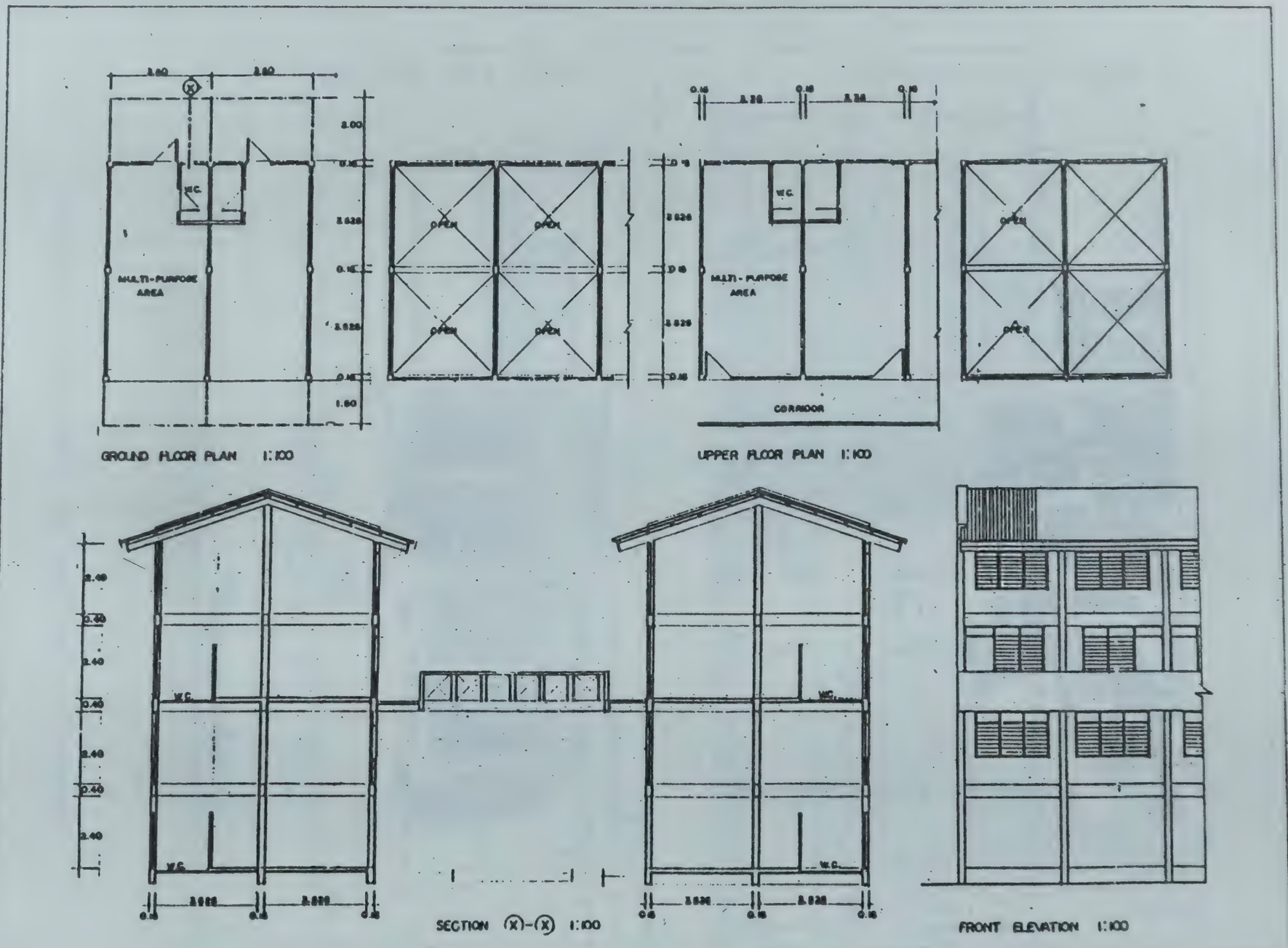


Figure 5. Sam Yod land-sharing project house types

Sam Yod, located in one of the most active market areas of the city, was a long-established community on land owned by the Crown Property Bureau. Cancellation of leases and eviction orders came in 1980, following destruction of the settlement by fire; some of the dwellers left under stress and pressure, but an organized core of roughly 30 families stayed on and rebuilt their houses while petitioning to the Bureau and the King. By the time NHA and the Building Together Association stepped in to articulate and negotiate the residents' claims, newcomers had joined the original group, bringing the total number of families to 156 by 1982. NHA managed to secure a written land-sharing agreement with the Bureau, resulting in a layout plan providing for 68 per cent of the site (total area, 0.65 hectares) to be allotted to the residents who would rent houses constructed by NHA; the remaining portion of the site was to be used for the construction of 37 shop houses in the open market. The proposal, subsequently, ran into a series of difficulties: officials of NHA insisted in renegotiating the agreement to increase the share of the commercial component of the project, and a proposed NHA subsidy for the provision of infrastructure was withdrawn. Disputes among residents also emerged, and the original core of families received unfinished two-storey new houses, while the late-comers were allotted unfinished four-storey new houses. The solution of core houses was also questioned, and several new proposals were formulated. Negotiations are still going on, the community having renewed its support for the original plan.

3. Klong Toey

Klong Toey is the largest slum in Bangkok; it houses approximately 6000 families on land belonging to the Port Authority in proximity to the port. The settlement dates back to 1939, when several poor families squatted in the marshy area, attracted by casual employment as dock labourers. In spite of several attempts over the years to evict the residents to allow for the expansion of the port's facilities, the population kept growing, and a strong community organization, supported by voluntary agencies, started opposing evictions from 1973. NHA stepped in and, in 1981-1982, built on a 6-hectare area 1512 units of five-storey walk-up flats for rent to slum dwellers evicted as a result of a first port expansion plan; most of the allottees, subsequently, sold their rights and moved back to the slum. The pressure from the Port Authority increased in 1983, and NHA was finally instrumental in bringing about an agreement for land sharing which implies the filling and draining of a flooded 11.2 hectares of the site to be developed as a sites-and-services project; 20-year leases of average 60 square metre plots were to be offered to the residents. The area was prepared by mid-1985, and shifting of the dwellers is in progress - mostly through self-help. The success of this first phase has also

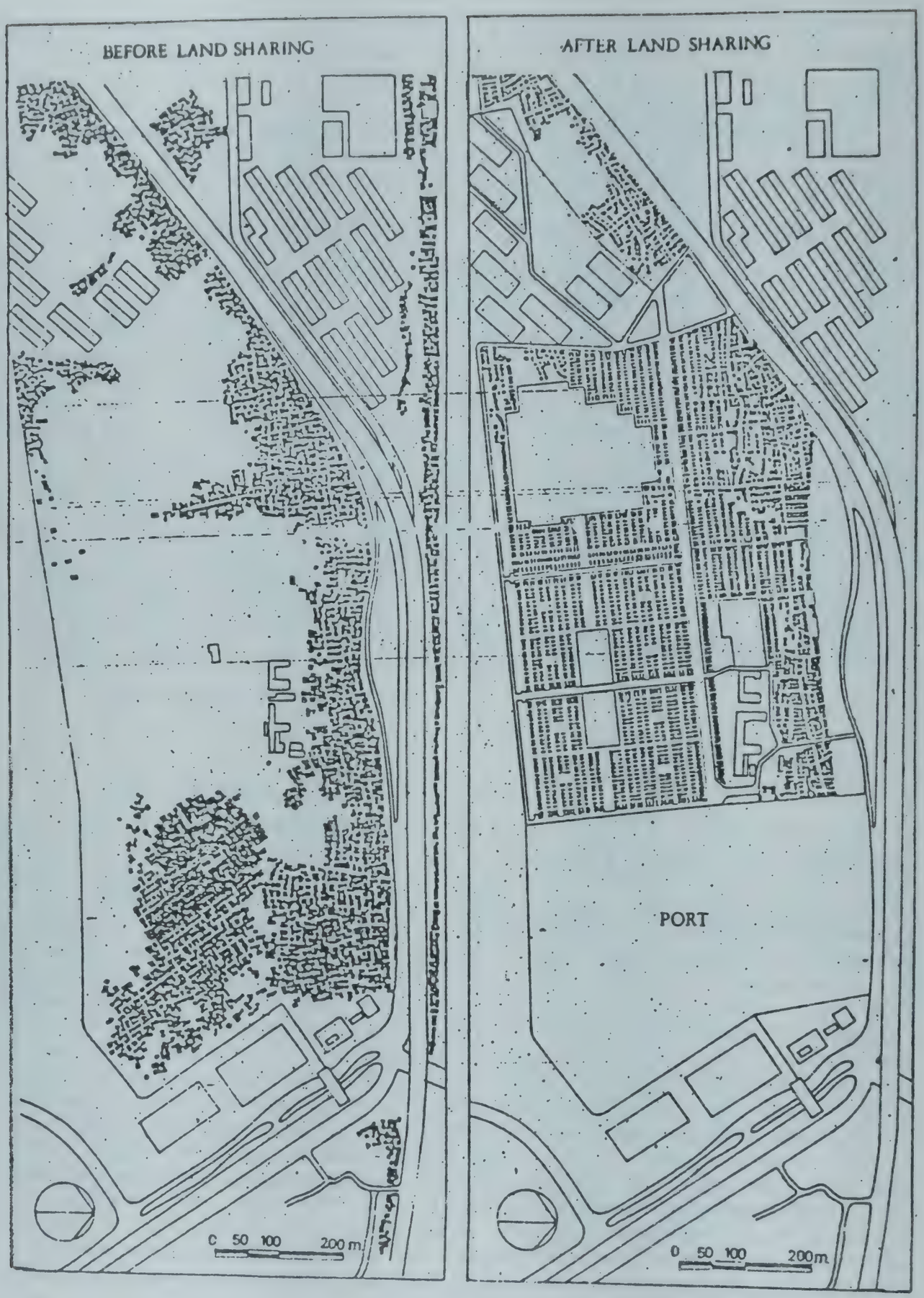


Figure 6. Klongtoey land-sharing project

contributed to the finalization of the agreement for the remaining areas.

Out of a total site area of roughly 65 hectares the "sharing" ratio of land for shelter is going to be 61 per cent: in addition to the previously built flats and the first sites-and-services phase, the remaining area is to be reblocked and provided with infrastructure. Resettlement of families to over-spill areas in sites-and-services projects complete the scheme, giving a total land for housing of roughly 40 hectares which rehouses almost all the original residents.

4. Wat Lad Bua Kaw

This is the only land-sharing project completed in Bangkok; the amount of information available over the whole process of consolidation provides, therefore, the ground for a series of interesting conclusions. Unlike communities in the projects previously discussed, the Wat Lad Bua Kaw community resided on private land, belonging to absentee landlords with whom, at one point or other of the relatively long history of the settlement (roughly 50 years), each family had worked out an agreement. Table 3 provides a breakdown of tenure systems for the roughly 400 households living in the original settlement in 1978.

Table 3. Wat Lad Bua Kaw, record of tenure

Tenure	Number of dwelling units	Percentage
Owner of land and house	15	3.9
Renter of land and house	136	35.6
Sharing accomodation	45	11.7
Living with relatives	26	6.8
Renter of land and builder of house	161	42.0
Total	383	100

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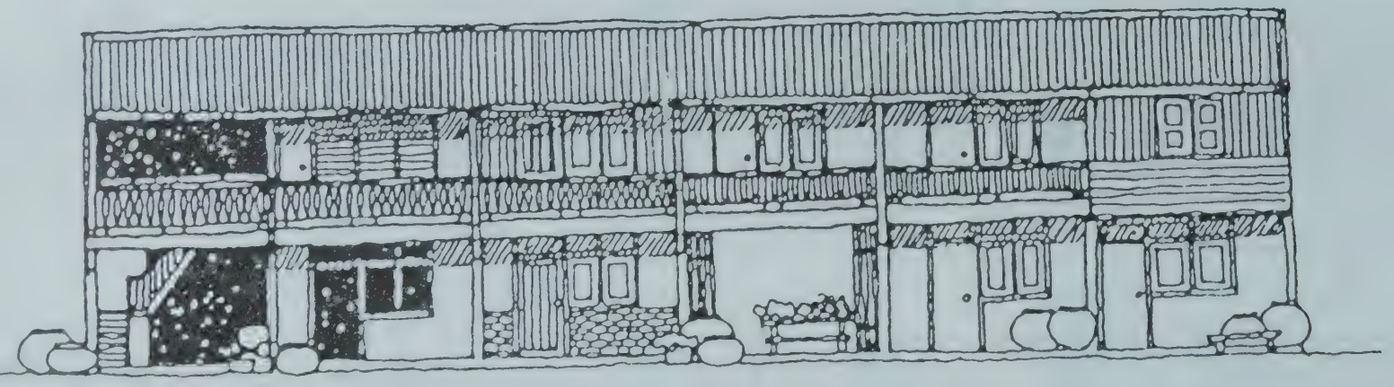
ELEVATION A
SINGLE HOUSE



ELEVATION B
ROW HOUSE WITH COMMON WALL (6 UNITS)

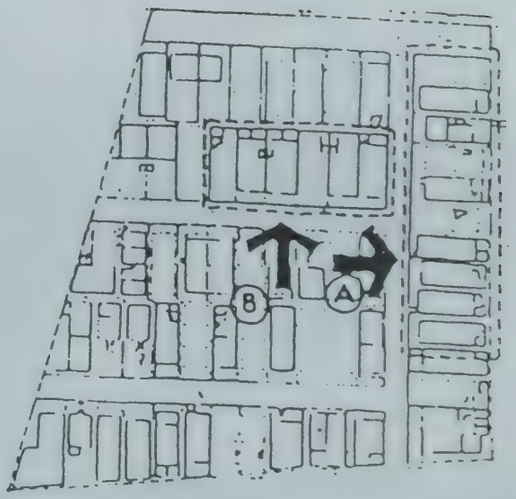


Figure 7. Wat Lad Bua Kaw .

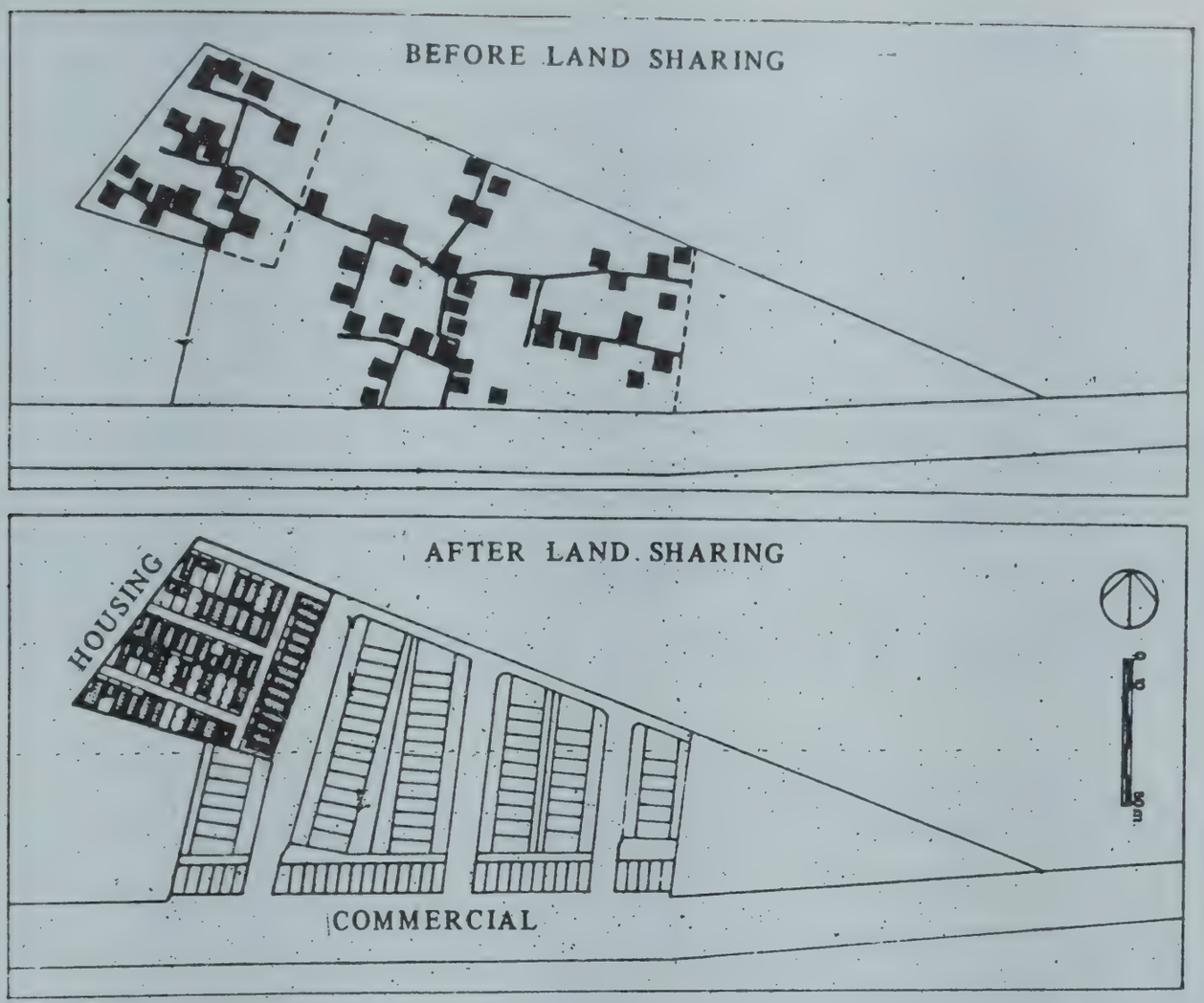


Figure 8. The Wat Lad Bua Kaw land-sharing project

Fire, accidental or intentional, struck the area (approximately 1.6 hectares) in 1978, following which the landlords seized the opportunity to recapture control of the valuable site, centrally located and in high demand for commercial and residential development. While the dwellers were trying to rebuild their houses as best as they could, the owner immediately sold the area to a development company for Baht 10 million ($434,000), and the company took the required legal steps to force eviction of the residents. A compensation amount totalling $30,000 was offered by the company to 219 resident families who agreed to leave, individual amounts per family ranging, according to their tenurial status, from $25 to $250. Threats and other forms of coercion were used to entice families to leave, including taking 13 families to court. Sixty seven families, in the end, resisted the pressure, and, in 1981, NHA officials became aware of the issue during a city-wide slum survey and decided to propose sharing of the area. The plan assigned an area of 2 rai (3200 sq m) to the residents - equivalent to 20 per cent of the total area - and defined 67 plots, ranging in size from 32 to 56 square metres.

The successful conclusion of the negotiations led the Government Housing Bank (GHB) to provide a loan to NHA to acquire the land. The loan of Baht 1.6 million ($70,000), equivalent to 87.5 per cent of the selling price of the land, was extended to NHA for a period of five years at 14 per cent per annum, and NHA bore the remaining 20 per cent of the land price (roughly $9,000). Plots were transferred to residents on a hire-purchase basis, with rates ranging between $21 and $32 per square metre, loans were extended to households averaging Baht 22,000 (roughly $950), to be repaid through a downpayment of Baht 8600 ($370) within six months and monthly instalments of Baht 530 ($23), with plots as collateral. Interest charged by NHA to the residents was 1 per cent higher than the GHB rate to cover overhead costs: the financial mediation of NHA was made necessary by the reluctance of GHB to lend directly to the residents.[15/] The cost of and provision of water mains was borne by the public sector. Table 4 shows the summary of costs.

Table 4. Wat Lad Bua Kaw, summary of costs and bearers
(Thousands of baht)

Item	Cost	Bearers of costs		
		NHA	MWWA[a]	Residents
Land	1 600.0	-	-	1 600.0
Transaction fees	54.1	-	-	54.1
Land-fill	180.0	-	-	180.0
Site development	576.6	576.6	-	-
Electricity mains	94.6	-	-	94.6
Water mains	230.0	-	230.0	-
	2735.3		806.6	1928.7

[a] Metropolitan Waterworks Authority

Basic rules were established to guide construction: houses could not be higher than two storeys, plots could not be completely built up, a choice between separate units and row houses was given, and there was no restriction on the use of building materials, since existing building codes were waived. The majority of households (65 per cent) opted for the single-house solution; capital for house construction was mobilized from informal sources in the majority of cases (82 per cent), the rest using credit arrangements offered by suppliers of materials. The average expenditure on house construction in 1982-1983 amounted to $760, more than double the value of the houses in the original settlement.[16] Only about 12 households used exclusively hired labour to construct the house, while the rest relied mostly upon help from family members or friends.

The strong feeling of belonging to a community, strengthened through time and the difficult struggle against eviction, is reflected also by the generally stated desire to remain in the settlement in the years to come: one of main worries expressed at the planning stage was that beneficiaries, upon obtaining a plot on freehold basis at a cost below the prevailing market rate, would quickly sell for a profit. The purchasing price for the

dweller turned out to be Baht 2,000 per square wah (roughly $21 per square metre) as against a market rate of Baht 7360 per square wah (roughly $80 per square metre), while, in the area redeveloped by the company in August 1984, 96 units of middle-income and high-income town houses-cum-shop houses were being sold for amounts ranging from Bhat 700,000 (roughly $30,400) to Baht 1,000,000 (roughly $43,500); pressure from the commercial and high-income groups on the slum dwellers was, therefore, expected. However, a recent study by the Centre for Housing and Human Settlements Studies (CHHSS) found that 94 per cent of the people did not want to sell their land, citing as an argument the difficulty of finding other accommodation, the necessity to remain in the inner city to safeguard their informal occupations and a feeling of belonging to the place and the community. Further to that, while only 16 per cent of the people interviewed expressed the opinion that the decision to sell should rest solely with the owner, more than 80 per cent of the people hinted that communal rules should be there to prevent sales; aware that, once penetration by commercial and high-income interests starts and community cohesiveness is broken, the phenomenon becomes unarrestable, some 68 per cent added that plots, if sale was unavoidable owing to financial needs, should preferably revert to the community.

5. Manangkasila

The Manangkasila land sharing project, in an advanced stage of execution, is particularly interesting for a quite drastic reversal of roles in the negotiation and planning processes which, in this case, were handled directly by a very authoritative community leadership; the administration and management of the project are currently undertaken without any governmental involvement. Manangkasila is situated in a busy central location, close to government offices and important wholesale markets; the area has been owned, during the past 60 years, by a succession of public agencies, allowing people to squat or charging low land rentals, as long as the redevelopment interest was low. This situation, coupled with the propinquity to employment opportunities, favoured the rapid establishment of a low-income community which grew to 481 households by 1974; on account of the favourable location, the dwellers earn an income higher than that of their counterparts surveyed in other slums of the city - an average of Baht 5500 against the customary Baht 4500. Figures for unemployment are also quite instructive - 1 per cent in Manangkasila against an average 25 per cent for slum areas as a whole.

The latest public owner, the Treasury Department, decided, in 1978, to lease the land for commercial development to the highest bidder. The private company which won the bid went through the traditional procedures, serving eviction notices on the dwellers and offering compensation to each family at the rate of Baht 800 per square wah (roughly $8 per square metre) of space occupied by the dwelling; only 32 households agreed. The community organized a demonstration in front of the Prime Minister's house who referred the matter to the Finance Ministry; a compromise solution was sought, culminating in an agreement, in March 1982, between the community, the company and the Treasury Department. By then, however, only roughly 30 per cent of the original families were still in place - 160 in all; 37 additional families, following demonstrations, were added to the list. The back portion of the site - an area of 0.62 hectare (39 per cent of the total) was assigned for reconstruction of shelter.

While NHA gave assistance in the planning and design of the new units, the community formed a credit union and managed to secure a loan from CEBEMO in the Netherlands through the Credit Union League of Thailand. According to the agreement, the land was leased out by the Treasury Department to the dwellers for a nominal yearly fee; following community decision, the plots allocated to the families who participated in the long negotiation process were of 10 square wah (40 square metres) while the latecomers received 5 square wah plots. The construction work is in progress, implemented by a private contractor, hired and supervised by the community; densities are high (46.8 units per rai or

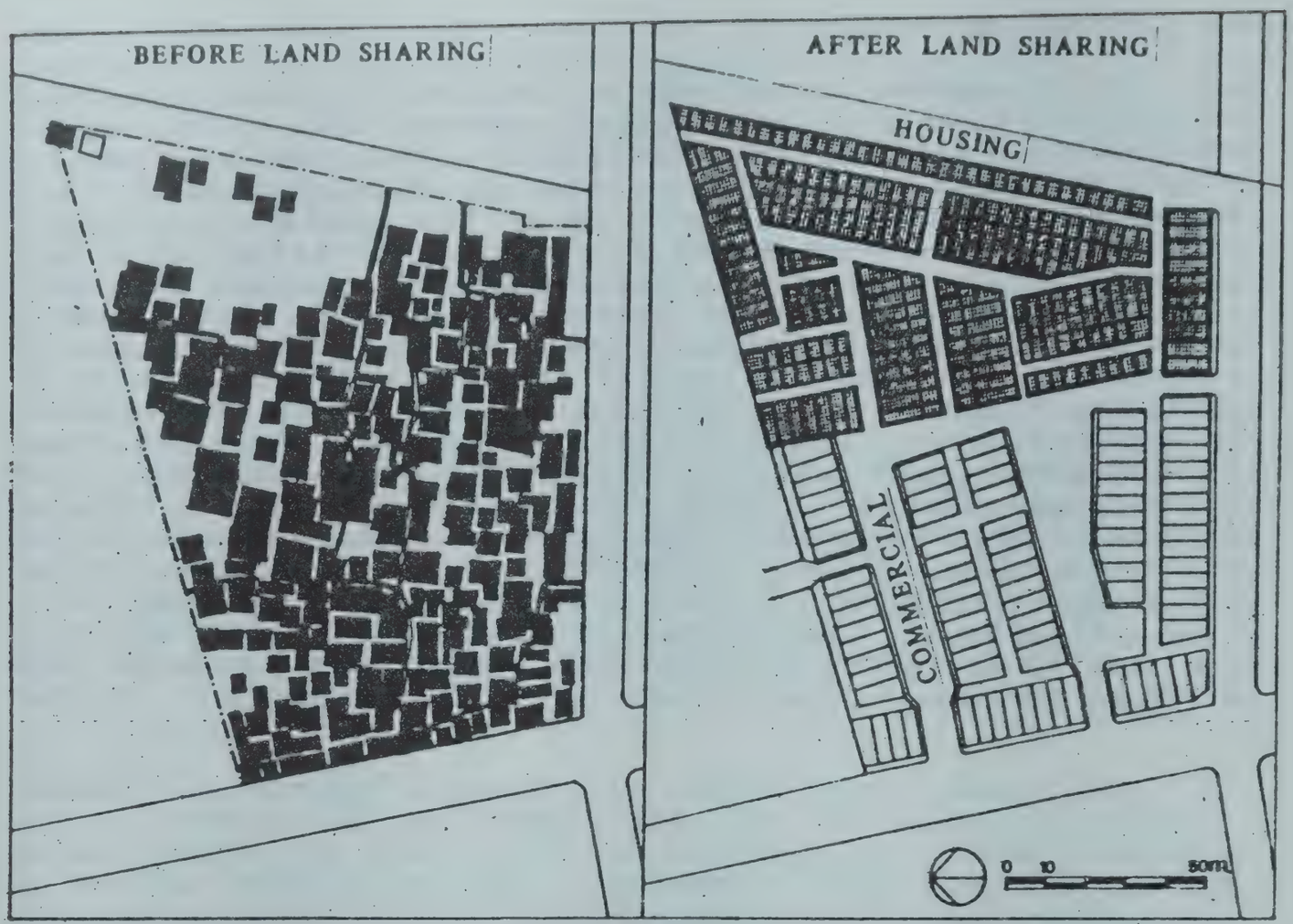


Figure 9. The Manangkasila land-sharing project

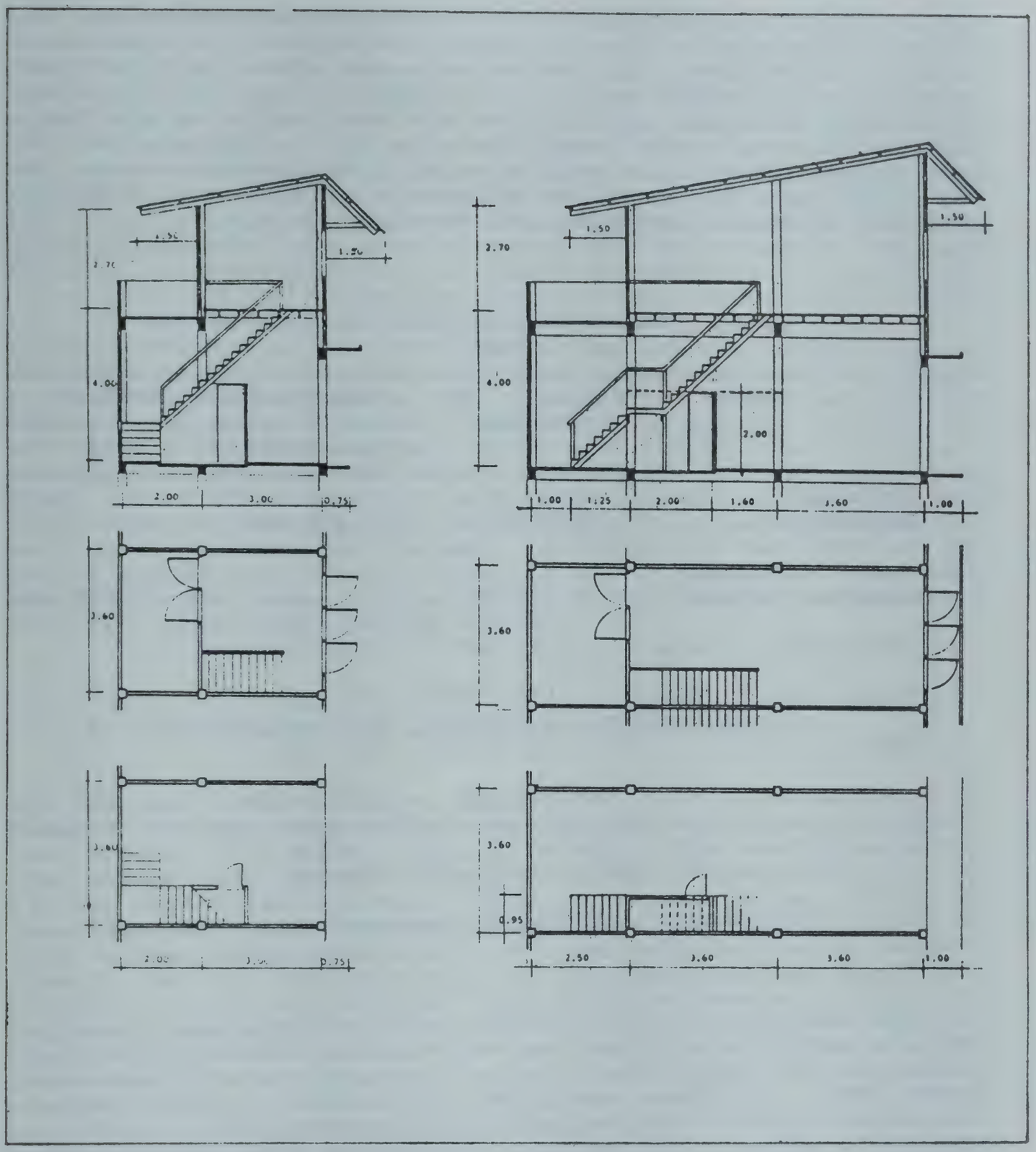


Figure 10. Manangkasila land-sharing project house types

448 per hectare), the units are in double-storey row houses, and the residents receive the core of the house from the contractor for them to complete. The estimated costs of the units are Baht 48,000 (roughly $2,090) for the ones built on the small plots and Baht 89,000 (roughly $3,870) for the ones built on the large plots, to be paid by the Credit Union in six instalments. Cost of provision of electricity and water supply is to be borne by the residents, while NHA bears the expense, not to be recovered, for provision of roads, footpaths and sewerage system.

Table 5. Manangkasila, Capital Investment (Baht)

	Amount	Responsible parties	
		Slum dwellers	NHA
1. Building Construction	12 087 000	12 087 000	
2. Road, footpath, sewerage system	1 210 872	-	1 210 872
3. Electricity system	295 500[a/]	295 500	
4. Water supply system	110 320[a/]	110 320	
5. Fees	137 900[b/]	137 900	
Total	13 841 592	12 630 720	1 210 872

[a/] Cost of water meters not included.

[b/] Baht 700 contract fee payable to the Treasury.

The construction modalities employed in Manangkasila imply a heavy financial burden for the residents who, after an initial downpayment of Baht 10,000 for a 5 square wah plot and Baht 20,000 for a 10 square wah plot, will have to bear monthly instalments of Baht 2100 and Baht 3100, respectively, in order to meet house-construction costs. Even taking into consideration the higher income of Manangkasila residents vis a vis the average Bangkok slum dweller and the good employment situation, the repayment instalment amounts, for many families, to roughly 50 per cent of monthly income.

The Credit Union mobilizes funds by offering different types of saving accounts to the dwellers, the most popular being, apparently, a Saving Account for Housing Development, where residents are expected to deposit the monthly instalments required and reach half of the construction cost before moving to the new housing unit; transfer of rights, lease title to the land and house ownership take place upon fulfilment of payment. The savings by the slum dwellers with the Credit Union were by mid-1985 lagging below target, partly because several residents grew disenchanted with the Committee and the construction company. Transfer of land and house rights to third parties is not uncommon, and a the survey conducted by NHA found that, in 1985, some 22 per cent of residents had already transferred their rights, mainly to businessmen living in the neighbourhood. Financial hardship and difficulties in meeting repayment deadlines were obvious causes, the speculative temptation another (the average price to transfer the right, by the end of 1984, was estimated to be between Baht 50,000 and 100,000 for a 5 square wah plot and between Baht 100,000 and 200,000 for a 10 square wah plot). Lack of confidence in the land tenure arrangement and scepticism about being able to remain in the area in the long run were also mentioned as reasons. However, 59 per cent of the people interviewed claimed that in no circumstances will they ever surrender their rights, with 18 per cent of respondents uncertain about their future course.

F. Performance and feasibility of land sharing

In the long struggle, protracted over several years in Bangkok, between slum dwellers on one side and public or private landlords on the other, only five among the many low-income communities served with eviction orders were successful in winning their right to stay - this, too, at a price. As can be seen from the brief history of the five land-sharing projects, some of the communities have been drastically reduced in number, through coercion and hardship, by the time the long and tense negotiating process has led to a final agreement. Yet, the important lesson is that the five communities which managed to reach an agreement did so through organized resistance which automatically drew external support from both governmental and non-governmental circles. The changing conditions in Thailand, which have previously been described, and the emergence, among public agencies, citizens' groups and non-governmental organizations, of a responsible and supportive attitude to the demands of the urban poor have provided support for the growth of an assertive community awareness among low-income people. The results have been significant in terms of breaking an impasse and reversing, although in a few cases only so far, a totally negative trend for slum dwellers. The impact on policy could be highly significant; the questions to be answered are whether the

performance of land sharing so far and the trends which are emerging justify the assumption that the strategy can produce substantial and tangible benefits and whether the conditions which led to successful agreement in five cases were the product of special and unrepeatable conditions.

A land-sharing project, to be successful throughout the lengthy process, starting with negotiation and ending with tenurial and financial stabilization of the beneficiaries, has to resolve a series of problems:

- An agreement to partition the site, acceptable to all parties must be reached;

- The community must develop forms of organization which enable the residents to resist pressure for eviction for a lengthy period;

- The site and the lines of the partition agreement must allow for the densification required to rehouse the residents on a plot smaller than the original;

- Different technical solutions for reconstructing the residents' houses must be applied, according to the degree of densification induced by the agreement;

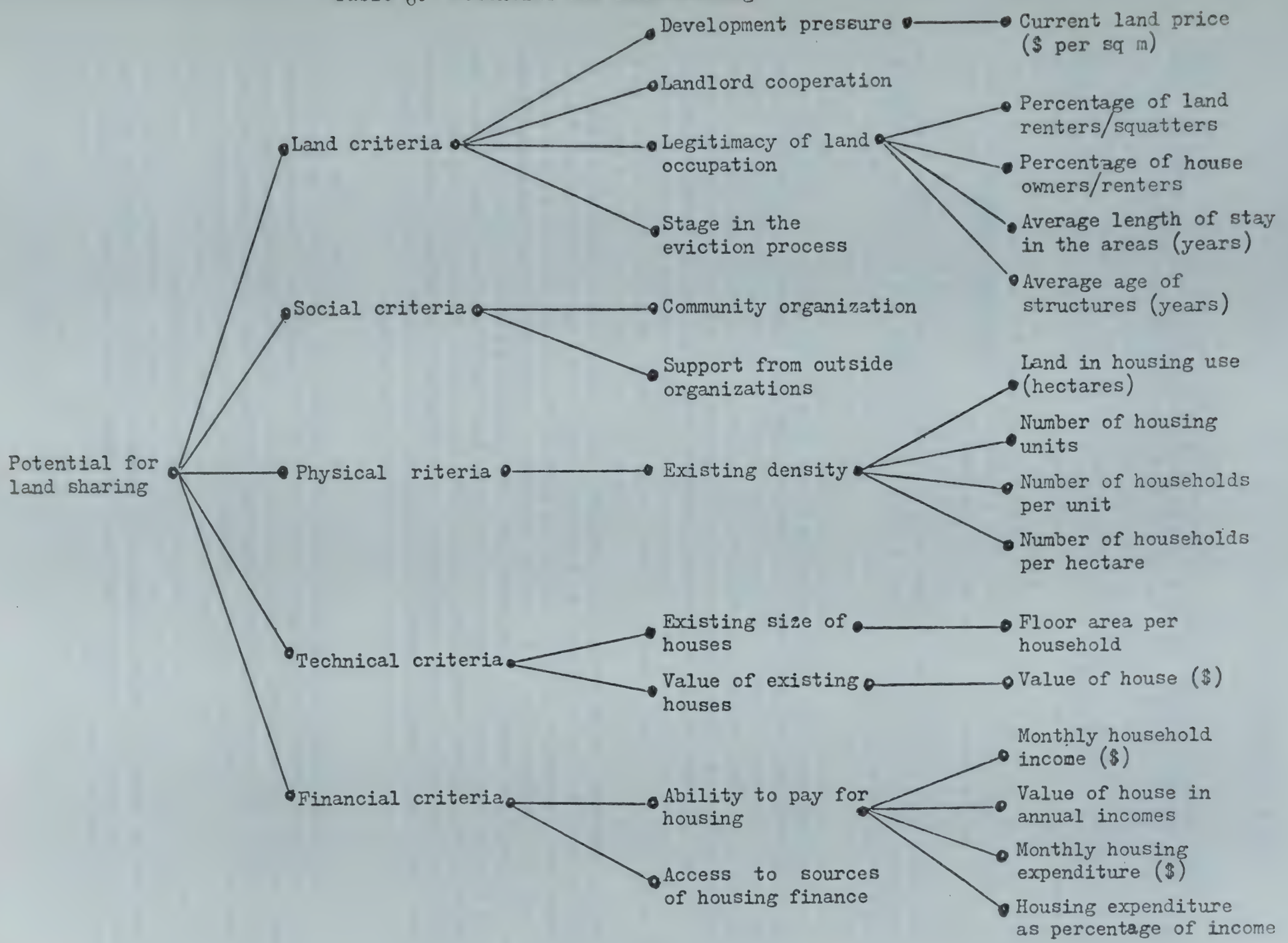
- Residents' ability to pay must match the cost implications of the technical solutions made necessary by the type of reconstruction.

The potential for land sharing can be evaluated by applying five separate criteria to the project, as follows:

(a) Land criteria;
(b) Social criteria;
(c) Physical criteria;
(d) Technical criteria;
(e) Financial criteria;

Each criterion can be broken down into factors to determine feasibility of land sharing in any given settlement; some of these factors can be measured through quantifiable indicators as shown in table 6.

Table 6. Potential for land-sharing



1. Land criteria

Development pressure, exemplified by current land price, is directly proportional to the redevelopment interest affecting the area. Theoretically, the higher the pressure the less likely a land-sharing agreement is going to be, which may initially discourage land-sharing attempts in inner-city slums where the pressure is the highest. However, in three of the five slums covered by land sharing, development pressure was very high, while it was medium in the remaining two, with an average current land price of $210 per square metre, roughly 10 times the price of land being developed on the suburban fringes. This did not prevent an agreement; the negative weight of development pressure can in fact be offset by the high potential for cross-subsidization, derived from the large margin of profit for redevelopment which the owners can undertake in the remaining portion of the site.

Legitimacy of land occupation does not have a juridical connotation, since the only form of tenure agreement available for low-income communities, the land rental, is in any case informal. The concept of legitimacy, translated into four quantitative indicators - percentage of land renters vs. squatters, percentage of house owners vs. renters, average length of stay, and age of structures - indicates rather the perception of a right to stay, based upon established social and economic links with the area, amount of investment made in housing, and the existence of a deal, no matter how informal, which somehow sanctioned the people's belonging to the site through time. These are factors likely to make the community vocal and determined to resist as well as to strike a sympathetic response from public authorities. The core of residents with a high degree of legitimacy normally takes on the leadership in the ensuing struggle against eviction. Four of the five communities had an existing group of such residents who indeed resisted; the exception is Klong Toey, purely a squatter settlement but the largest in Bangkok and with a long history of occupation.

The eviction process in Bangkok normally implies a series of steps, from the initial notice, to the landlord stopping rent collection (followed in many cases by arson), bringing people who stay on in the area to court, and paying minimal compensation for removal of household goods. In the five projects, agreements were reached at various stages in the eviction process; while resistance from the determined group of residents is likely to increase with the hardening of eviction steps, several families inevitably bow to the pressure, which tends to make a land-sharing agreement easier because of the lower number of families to be finally rehoused.

Landlord co-operation is, at least partly, a variable of the strength of the community and of the external support to it. As a general trend, public landlords, i.e. governmental agencies, have in recent years stepped up the pressure on low-income settlements more than have private ones, yet public landlords have proved to be sensitive to pressure from public opinion. In all five projects (four of which were on government land), landlords, at one point or another of the struggle, became very co-operative. Concern with public image and considerations of opportunity cost inevitably prompted the landlords to seek an agreement.

2. Social criteria

Social criteria are divided into community organization, and support from outside organizations. The two factors are related to each other, as well as being the result of factors such as legitimacy of land occupation. What distinguishes the five communities where land sharing was successful from the majority of Bangkok's slum communities is the strength of their community leaderships which were instrumental in enlisting outside support from governmental and non-governmental agencies, social workers and the communications media. Community leaders proved to be determined and patient, withstood pressures and threats, mediated dissension within the community and bore legal charges for court action. The external support produced by their action proved beneficial in organizational, managerial and financial terms.

The degree of community organization and assertiveness seems to be the main factor in opening prospects for a land-sharing agreement, in the absence of specific policy guidelines and enforcement from the Government. What is important is that strong community cohesiveness is the crucial factor in deciding not only whether the community will be able to win the right to stay in the negotiation process but also whether the project will be implemented successfully. A land-sharing project implies relocation, densification, financial burden over a protracted period of time, a difficult construction process and continuous dealings with the various private and public actors involved; last but not least, external market forces are going inevitably to exert pressure on the beneficiaries from the moment redevelopment begins. A settlement consolidation, based upon a strictly individualistic pattern where families are left alone to face the difficulties, has little chance of succeeding.

3. Physical and technical criteria

The feasibility of land-sharing schemes depends upon a number of related physical and technical parameters; the important physical criterion is existing density, to be measured by the following indicators, land in housing use, number of housing units, number of households per unit and number of households per

hectare. Obviously, the higher the original density, the harder will be the rehousing through land sharing which, in itself, requires a further densification. Original densities in the five slums ranged between 59 households per hectare in Wat Lad Bua Kaw and 282 in Manangkasila. Designing a rehousing scheme was possible in all cases, but partly on account of the fact that densities had been reduced artificially, as in the case of Manangkasila, by the departure under pressure of many of the original residents.

While policy enforcement of land sharing would eliminate this forcible selection of beneficiaries, the issue of densification will remain one of the most complex ones facing planners. Its implications are obvious for the technical solution to be adopted for rehousing. The five existing projects provide interesting case studies linking technical reconstruction and people's ability to pay. In Sam Yod and Rama IV (and, to a lesser extent, Manangkasila), where the densification process forced solutions of medium-rise to high rise structures, a mass construction approach through contractors became inevitable, raising the capital amount possibly beyond affordability. Wat Lad Bua Kaw and Klong Toey, where densification was limited, permitted self-help and produced self-financing structures.

Similar factors grouped under technical criteria and likely to affect the reconstruction process are the size of houses in the original slum and their value. These indicate the amount of investment already made by residents, often a fairly high one especially in old inner-city communities, which is investment to be done away with, if land sharing implies shifting the dwellers to a different portion of the site or markedly increasing the densities. In all five settlements, most structures were small and of low to medium value, either because the population was poor or because the best structures had been destroyed by fire, which made it feasible to dismantle the houses and rebuild new structures, and made the reconstruction proposition acceptable to the residents.

4. Financial criteria

The ability to pay for housing must take into account monthly household income, value of the house in terms of annual income, monthly housing expenditure, and housing expenditure as a percentage of income. These factors were found to be low, except in Manangkasila. The feasibility of land-sharing schemes rests upon low charges for land, internal cross-subsidies, public-sector infrastructure subsidies and good access to long-term housing finance. Ability to pay for housing in a land-sharing project, within the rather uniform income levels of Bangkok slum-dwellers, is mainly a variable of reconstruction techniques being

adopted. As the five projects prove, the more technically ambitious the reconstruction scheme the harder will be the task of repayment for the residents who will also have to bear charges for tenurial regularization (leasehold or freehold as the case may be). In such cases, the actual redevelopment value can provide the solution through large cross-subsidization, as in the case of Rama IV, where the private developer felt he could afford to bear the construction of 850 flats in multistorey structures, practically free of charge, out of the profit from the commercial development.

Access to external sources of housing finance was obtained in all five cases, either for land purchase, as in the case of Wat Lad Bua Kaw, or for house construction in the other cases. External credit is of course a crucial factor in all types of low-income shelter projects. The lesson here is that the element of internal cross-subsidy can, up to a point, contribute to making the project possible in all circumstances, as in the case of Rama IV, where a very expensive construction scheme for the poor could in theory be financed through the commercial profit by the developer. However, the experience of the five projects proves that this may be deceptive; Rama IV, as mentioned earlier, is yet to be implemented. Projects where housing consolidation was within the financial reach of beneficiaries were successful also thanks to the mobilization of family savings like in the case of Manangkasila.

The ability to pay for housing was found to be low in all settlements but this did not prevent land sharing from taking place where planning and construction solutions were financially appropriate.

5. Feasibility ratings

Tables 7 and 8 show respectively the feasibility ratings for the listed criteria and the data corresponding to the quantitative indicators for the five settlements prior to land sharing.

The observations made so far, while discussing the feasibility criteria, are reflected in the tables; table 7 contains qualitative assessment of the indicators, table 8 quantitative ones. Both testify to a variety of situations which called for different planning solutions but which did not prevent the clinching of a land sharing agreement.

Table 7. Feasibility criteria for assessing the potential for land sharing in five Bangkok slums

Feasibility criteria	Rama IV	Manang-kasila	Wat Lad Bua Kaw	Sam Yod	Klong Toey	Average
Land criteria:						
Development pressure	V. high	V. high	Medium	V. high	Medium	High
Landlord Co-operation	Medium	V. good	Good	V. good	Medium	Good
Legitimacy of land occupation	Medium	Medium	High	Medium	Low	Medium
Stage in the eviction process	Late	Early	V. late	V. early	Late	Middle
Social criteria:						
Community leadership	Strong	V. strong	Medium	Strong	V. strong	Strong
Support from out-side organizations	Strong	V. strong	V. strong	Strong	V. strong	V.strong
Physical criteria:						
Existing density	Medium	V. high	Low	High	Medium	Medium
Technical criteria:						
Existing size of houses	Small	Small	Small	Small	Small	Small
Value of existing houses	Medium	Medium	Low	Medium	Low	Medium
Financial criteria:						
Ability to pay for housing	Low	Medium	Low	Medium	V. low	Low
Access to sources of housing finance	Good	Good	Medium	Medium	Good	Good

Table 8. Quantitative indicators for assessing the feasibility of land sharing in five Bangkok slums

Feasibility criteria	Quantative criteria	Rama IV	Nanang-kasila	Wat Lad Bua Kaw	Sam Yod	Klong Toey	Average
Development pressure	Current land price ($ per sq m)	260	280	80	320	110	210
Legitimacy of land occupation	Percentage of land-renters/squatters	34/66	3/97	33/67	19/81	0/100	18/82
	Percentage of house-owners/renters	38/62	35/55	71/29	77/23	73/27	61/39
	Average length of stay in the area (years)	16	25	29	31	15	23
	Average age of structures (years)	16	33	6	5	11	14
Existing density	Land in housing use (hectares)	8.5	1.75	1.6	0.95	65.0	15.6
	Number of housing units	560	224	68	136	4928	1180
	Number of house-holds per unit	1.39	2.19	1.40	1.16	1.20	1.47
	Number of house-holds per hectare	92	282	59	165	91	138
Existing size of houses	Floor area per household (sq.m.)	27.0	21.7	20.1	26.1	30.3	25.0
Values of existing houses	Value of house ($)	1665	1260	370	1055	840	1040
Ability to pay for housing	Monthly house-hold income ($)	122	163	126	139	119	134
	Value of house in annual incomes	1.12	0.65	0.25	0.63	0.59	0.65

Settlement typology could hardly have been more varied. Densities ranged from "very high" in Manangkasila (with 282 households per hectare and 2.19 households per unit) to "low" in Wat Lad Bua Kaw (59 households per hectare and 1.40 households per unit). Types of structures ranged from the informal temporary dwellings of Wat Lad Bua Kaw (average value: $370) to the fairly consolidated structures, resulting from prolonged investment, of Rama IV (average value: $1665); Klong Toey and Manangkasila were typical squatter communities (percentage of land renters versus squatters: 0/100 and 3/97) as opposed to Rama IV and Wat Lad Bua Kaw (percentages: 34/66 and 33/67) where the older core of residents had a form of rental agreement with the landlord.

G. The performance of five land-sharing projects

To answer questions raised over land sharing's feasibility, a close look at the performance of the five projects and a comparative assessment of quantitative indicators before and after the projects are necessary. Table 9 gives actual values of the quantitative indicators after land sharing and ratios which are obtained by dividing the new indicator by the previous indicator values, prior to land sharing, which were shown in table 8.

1. Land

The quantitative indicator, land in housing use, gives a profile of the wide range of solutions arrived at through land sharing: the ratios indicating the percentage of land allotted to slum dwellers through the project vary from 28 per cent in Rama IV, where an intensive densification through multistorey construction was envisaged, to 61 per cent in Klong Toey and 65 per cent in Sam Yod. The data for the land price indicator require an explanation and some form of disaggregation: the figures show that land sharing, mostly by virtue of the potential for commercial cross-subsidization, allowed slum dwellers to have access to secure land tenure by paying an average of 6 per cent of the actual value of land. The figures are not homogeneous, since in the case of Wat Lad Bua Kaw residents purchase the land on a freehold basis, in contrast to the other projects where a leasehold was extended (hence the relatively high ratio of 23 per cent of actual land price for Wat Lad Bua Kaw). What the figures show is the degree of implicit cross-subsidy generated by land-sharing projects, to allow poor families to receive a form of secure tenure over valuable land which they would otherwise have lost. To this effect, values for land prices are calculated for Manangkasila, Sam Yod and Klong Toey (data are not available for

Table 9. Quantitative indicators measuring the performance of land-sharing projects in five Bangkok slums

Feasibility criteria	Quantative Indicators	Rama IV		Manang-kasila		Wat Lad Bua Kaw		Sam Yod		Klong Tuey		Average	
		Value	Ratio	Value	Ratio	Value	Ratio	Value	Ratio	Value	Ratio	Value	Ratio
Development pressure:	Land price	n.a.	n.a.	1.40	0.005	18.5	0.230	1.34	0.004	0.70	0.006	5.50	0.06
Density:	Land in housing use (hectares)	2.40	0.28	0.67	0.38	0.32	0.20	0.65	0.68	39.8	0.61	8.80	0.43
	Number of housing units	850	1.52	197	0.88	67	0.99	175	1.29	4710	0.96	1200	1.13
	Number of households per unit	1.00	0.72	1.53	0.70	1.39	0.99	1.00	0.86	1.16	0.97	1.21	0.85
	Number of households per hectare	354	3.85	448	1.59	291	4.93	269	1.63	137	1.51	300	2.70
Size and value of houses:	Floor area per household (sq m)	56.0	2.10	35.3	1.62	30.2	1.50	51.3	1.97	53.6	1.77	45.3	1.79
	Value of house($)	7420	4.46	1535	1.22	760	2.05	4660	4.42	1660	1.90	3195	2.81
Ability to pay for housing:	Value of house in annual incomes	5.07	4.46	0.79	1.22	0.51	2.05	2.80	4.42	1.12	1.90	2.06	2.81
	Monthly housing expenditure ($)	n.a.	n.a.	50.0		20.0		62.5		8.60		35.3	
	Housing expenditure as percentage of income	n.a.	n.a.	30.5		15.8		45.0		7.25		24.6	

Rama IV, pending agreement) on the basis of the monthly leasehold fee charged to the residents, projected over the period of leasehold (20 to 25 years) and discounted in value to the present time; for Wat Lad Bua Kao, the actual purchase price appears. The ratio is obtained by dividing the value by the previous indicator in table 6 of market land price. In all cases, either the selling price to residents (Wat Lad Bua Kaw) or the leasehold fees charged in the other cases were well below market rates, but the subsidy elements were internalized by the project, making the whole operation feasible and acceptable to all parties concerned. The current value of the land remaining at the disposal of the developer in Rama IV, after land sharing, amounts to $16 million; the cost of construction of 850 flats to be handed over to the residents is $6.3 million which is, in fact, just the cost to the developer for acquiring the total site. The situation is similar in Wat Lad Bua Kaw where the value of land remaining to the landlord after land sharing is three times what the developer paid for the site, and in Manangkasila, where the actual amount paid by the developer is only 13.2 per cent of the market value of the land remaining to him after land sharing.

2. Density and housing quality

Densities in land-sharing projects have more than doubled, on average, resulting in the need to increase overall floor-area ratios and the consequent need, in two cases, to build multistorey structures. It must be noted, however, that the highest density of all projects was found in Manangkasila, where community leaders themselves sketched the site plan and determined that most families would receive 20 square metre sites. This has been done against municipal regulations requiring larger plots as well as higher standards of construction and infrastructure. To date, all three land-sharing projects which have been implemented have largely ignored municipal regulations, supported in their action by the National Housing Authority. Adherence to municipal regulations in the future will necessarily limit land-sharing projects, particularly those with substantial components of self-help and self-financing, and may make them unaffordable by most slum dwellers. In spite of the increase in density in all settlements, indicated by the number of households per hectare (as an average 2.70 more than in the original slums) overcrowding within developing units has been reduced in all projects (see ratio of households per housing unit). Land sharing has led to improvements in housing quality in all projects studied. Floor area grew by more than 75 per cent on average, from 25 square metres per household to 45.

The value of a housing unit, compared with the original structures, also rose dramatically. The high average increase ratio (close to 3:1) is mostly on account of the high construction value of the proposed multistorey housing solutions in Rama IV and Sam Yod; however, the interesting and encouraging

data emerge from Wat Lad Bua Kaw and Klong Toey, where people s investment, following tenurial stabilization, achieved marked house improvements, in each case in the vicinity of twice the original value.

The overall data are made more significant by the increase in floor area per household, ranging from a ratio of 1.50 in Wat Lad Bua Kaw to 2.10 in Rama IV.

The overall increase in house value and quality appears even more sustantial considering the added value of a secure land title obtained through the land-sharing agreement. The inevitable question is whether this drastic increase in value will not lead to mass resale of the units and transfer of rights to high-income groups. Moreover, in all cases, the very logic and basic principles upon which land sharing is based has an inherent additional threat to residents' stabilization: the commercial redevelopment of a portion of the site, necessary precondition to allow slum dwellers to stay on the land, automatically raises the potential value of the redeveloped slum and the interest of high-income groups in gaining a foothold in it. However, the basic principles which generate the demand for land sharing may provide an answer: communities fought for their right to stay, perceiving that their economic survival had, until then, depended upon being integrated in an informal network of employment opportunities which they would lose, should market pressure manage to force eviction upon them. A survey conducted in Manangkasila proves that the resale phenomenon is by no means uncommon, 23 per cent of the families having already sold their rights but that the vast majority (59 per cent) had clearly no intention of selling, quoting vicinity to work place as one of the main reasons to stay. In Manangkasila, the survey revealed that two thirds of the families who had transferred their rights did so because of financial hardship. Completely different is the situation in Wat Lad Bua Kaw, where a similar survey found that 93 per cent of the families had no intention whatsoever of selling, and only 7 per cent contemplated selling at some future date. Here, too, the reason most often cited to explain the desire to stay was the availability of job opportunities within easy reach and a strong feeling of belonging to the community. The residents volunteered suggestions for measures to control resale to avoid penetration of high-income groups and commercial interests into the settlement.

3. Ability to pay for housing

The last quantitative indicators are those related to ability to pay for housing. Value of the house in annual incomes in the five projects range from 0.51 in Wat Lad Bua Kaw to almost 4.5 in Rama IV and Sam Yod with Manangkasila at 0.79. The housing expenditures as a percentage of income vary from 15.8 in Wat Lad Bua Kaw to 30.5 in Manangkasila and 45 in Sam Yod.

The figures, together with the observations previously made on construction techniques adopted in slum reconstruction, provide clear guidelines for future land sharing projects: taking it for granted that external market pressure on beneficiaries of land-sharing projects is going to be high, it is important to avoid additional elements of uncertainty for the dwellers being generated from within the project. The most ambitious land-sharing projects, such as Rama IV and Sam Yod require considerable capital for house construction, forcing beneficiaries to bear high costs over protracted periods and producing dwelling units intrinsically attractive to middle-income groups. Conventional and expensive construction techniques require the involvement of banks and financial institutions, contractors and external managerial and administrative supervision, and decision-making over the construction process clearly moves out of the reach of the residents. Rama IV and Sam Yod, in spite of an agreement signed long ago, have not yet been constructed.

These problems were avoided in Wat Lad Bua Kaw and Klong Toey, where most construction is self-financed (in Klong Toey, only Phase I consisted of flats in multistorey structures, the rest was done through a sites-and-services project and reblocking), and, to a certain extent, in Manangkasila, where structures were built by a contractor with an external loan, covered, however, by savings from the residents.

As a general criterion, based upon the experience of the five projects in Bangkok, land sharing, even after densification, will best succeed in internalizing its costs and ensuring that residents will be able to sustain themselves in the project by following common practices of sites-and-services projects, relying upon families' own resources to construct their dwellings.

H. Potential for replicability

The purpose of this study, besides producing a comparative assessment of performance of five land-sharing projects, was to establish how feasible the land-sharing strategy is for rehabilitating slum communities under threat of eviction in Bangkok. The most recent estimate of the number of slum communities in Bangkok puts their number as high as 1020[17], 40 per cent of which may be under threat of eviction - a ratio inevitably due to rise. The five projects demonstrate that a land-sharing agreement can be achieved in a variety of situations and through a variety of solutions.

Manangkasila, a fairly successful project, was implemented in spite of having the highest density among the five slums and one of the highest among several other Bangkok slums which were surveyed, an indicator which in theory would have justified a very low feasibility score and discouraged a land-sharing project. Considerable payments by the dwellers implied by slum reconstruction would have similarly indicated a low feasibility score for what is possibly the most successful land-sharing experience so far - Wat Lad Bua Kaw - the residents of which had a monthly income below the average for Bangkok slum dwellers. Reconstruction techniques based upon residents' affordability made the project possible. What emerges is, therefore, a set of guidelines to establish the feasibility of land sharing and the most appropriate implementation techniques.

The basic principles or decisive factors which affect a land-sharing project need to be carefully weighed against the long-term objective which is stabilization of the residents on their original site. To this effect, people's ability to pay must translate into appropriate reconstruction techniques which, in turn, gives permissible densification ratios; from these can be derived the degree of "sharing" of land required and the size of the site to be allotted to residents. The feasibility of the agreement will then depend upon the potential for profit through commercial redevelopment of the site left with the landlord, based upon market value of land, since this is to provide the incentive for him to accept the deal.

Feasibility of land sharing in any given situation cannot be established solely on the basis of technical criteria, since the ultimate factors to decide in favour of or against its implementation will depend upon the complex wishes of the actors and upon the political support which the parties will be able to enlist. What emerges from the assessment of the five projects and from a feasibility study conducted over 10 additional slums under threat of eviction is that, for most inner-city low-income settlements, there are no technical reasons to prevent land sharing, given the flexibility inherent in the strategy which makes it adaptable to a variety of situations. Possibly, the most interesting consideration that emerges from the so-far brief history of land sharing in Bangkok is that the strategy, rather than being a technical or bureaucratic solution to inner-city slum problems, is a political mechanism for resolving conflicting claims over slum land by landlords and residents.

In central areas of Bangkok, as well as in those of all metropolises of developing countries where market pressure has not yet led to landlords pressing for redevelopment, slums remain stagnating, as they do when lack of secure tenure prevents the channelling of residents' resources toward improvement. However,

when there is a situation of conflict, land sharing can be invoked to mutual satisfaction, resettling the dwellers in an improved situation and allowing the landlord to retrieve his property at least in part.

From the point of view of Bangkok's public authority, charged with the task of managing urban development and promoting "modernization" as well as with the task of catering to the housing needs of its low-income population, land sharing appears an attractive option. Replacement housing for an increasing number of slum dwellers evicted from central locations is simply out of the question, adding as it does to the already unmanageable housing shortage; the programme of upgrading of slums without solving the tenurial issue has, in many cases, simply postponed the threat of eviction for many communities, jeopardizing, at the same time, the considerable capital already invested in delivery of basic services. The Government and the National Housing Authority, in particular, have clearly grasped the potential inherent in land-sharing solutions, lending support to the negotiation and planning process in all projects so far.

Technically, land-sharing agreements pose a challenge to planners, architects and engineers, calling for densification and reconstruction without exceeding people's ability to pay. As clearly demonstrated by the assessment of performance of five land-sharing projects, the successful technical solutions, strongly supported by the people, have been low-rise, high-density plans, calling upon people's participation in the process of house construction. These have not met existing municipal codes and standards which were waived by high public authorities on an ad hoc basis, but if land sharing is to be replicable and provide appropriate housing solutions for the urban poor, appropriate conditions need to be explicitly built into official policy guidelines.

The history of the past few years in Bangkok has produced some valuable lessons: first, that massive eviction of slum dwellers from the city is generating an unmanageable burden for the public sector in terms of replacement housing and that increasing awareness and organization within the low-income communities is making the process of eviction a potentially explosive issue with far-reaching social implications; secondly, that no political support exists at the moment for a city-wide programme of granting of tenure to slum dwellers, which makes conventional upgrading strategies futile; thirdly, that land sharing, by accommodating both claims to the land - the dwellers' as well as the owner's - provides a development alternative to the scenarios previously mentioned; finally, the five land-sharing projects demonstrate that what has always been considered as the hardest problem to be solved in the process of shelter upgrading - conflicting land claims - can be resolved peacefully and, more important, to mutual satisfaction.

The five projects also demonstrate that a full spectrum of technical and social solutions is applicable within the broad concept of land sharing; different degrees of performance, efficiency and social acceptability among the five projects indicate the way towards a streamlining and improvement of the technique, reducing Government's role in the delivery process, increasingly entrusting people with the task of building their shelter and, in the process, meeting the criteria which can make land sharing fully affordable and replicable on a broad scale.

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